



Blood Bank Refrigerators



► **Would you like to customize your blood bank refrigerator?**
See page 17 for options and accessories.

Our **Revco high-performance blood bank refrigerators** are designed to meet strict requirements established by the AABB for storage of whole blood and blood components. DIN 58371 compliant for our 326, 659 and 826 liter capacity units (230V/50Hz only).

The complete selection of +4°C refrigerators feature simplified push-button alarm test functions and reliable, field-proven refrigeration systems.

- Forced air circulation for uniform temperature and fast door opening recovery
- Heat-free defrost for maximum temperature uniformity
- Built-in chart recorder (freestanding on 4.9 cu. ft. undercounter model)
- Second cabinet temperature probe
- Four casters for easy mobility, front two are lockable
- 1" (2.5cm) insulated access port
- Bright, LED interior lighting
- Stainless steel, full extendable and adjustable drawers (optional shelves)
- Keyed on/off switch with setpoint security
- Self-closing door with 90° stop for easy inventory loads
- Built-in remote alarm contacts
- Optional 4-20 milliamp output



Thermo Scientific Revco High-Performance Blood Bank Refrigerators

Temperature Range: +1°C to +8°C, factory preset to +4°C (auto defrost)

Model No.	Cu. Ft./L (Blood Bag Capacity)**	Voltage (Hz)	Certification	Plug	Cabinet	Door	Drawers	Int. Dimensions* H x D x W inches (mm)	Ext. Dimensions* H x D x W inches (mm)	Ship Weight lb (kg)
REB404A	4.9/133	115 (60)	UL	NEMA 5-15	undercounter	single,	2	20.0 x 20.5 x 20.0	33.4 x 26.0 x 24.0	220
REB404D	(64)	208/230 (60)	UL	NEMA 6-15		solid		(508 x 520 x 508)	(850 x 660 x 610)	(100)
REB404V		230 (50)	CE	European						
REB404W†		230 (50)	CE	U.K.						
An additional 2" is added when standard casters are installed.										
REB1204A	11.5/326	115 (60)	UL	NEMA 5-15	space	single,	6	52.4 x 21.75 x 20.0	73.6 x 29.4 x 24.0	320
REB1204D	(192)	208/230 (60)	UL	NEMA 6-15	saver	glass		(1331 x 552 x 508)	(1869 x 762 x 610)	(145)
REB1204V		230 (50)	CE	European						
REB1204W†		230 (50)	CE	U.K.						
REB2304A	23.3/659	115 (60)	UL	NEMA 5-15	upright	single,	7	58.0 x 29.0 x 24.0	79.2 x 36.4 x 28.0	470
REB2304D	(385)	208/230 (60)	UL	NEMA 6-15		glass		(1473 x 737 x 610)	(2012 x 925 x 711)	(213)
REB2304V		230 (50)	CE	European						
REB2304W†		230 (50)	CE	U.K.						
REB3004A	29.2/826	115 (60)	UL	NEMA 5-15	upright	single,	6	58.0 x 29.0 x 30.0	79.2 x 36.4 x 34.0	505
REB3004D	(426)	208/230 (60)	UL	NEMA 6-15		glass		(1473 x 737 x 762)	(2012 x 925 x 864)	(229)
REB3004V		230 (50)	CE	European						
REB3004W†		230 (50)	CE	U.K.						
REB5004A	51.1/1447	115 (60)	UL	NEMA 5-15	upright	double,	14	58.0 x 29.0 x 52.5	79.2 x 36.4 x 56.5	640
REB5004D	(770)	208/230 (60)	UL	NEMA 6-15		glass		(1473 x 737 x 1334)	(2012 x 925 x 1435)	(290)
REB5004V		230 (50)	CE	European						
REB5004W†		230 (50)	CE	U.K.						

* Published interior volumes are nominal; useable cu.ft. (L) capacities may be offset by shelves, drawers, blower coils, or cabinet protrusions. For specific cabinet dimensions and allowances, or for verification of clearance tolerances, contact our sales representative. Product performance may be affected by ambient temperature conditions, humidity conditions, sample loading preferences, and frequency of door openings. Contact our sales representative for specific inquiries regarding your application. 4.9 cu. ft. exterior dimensions are without casters.

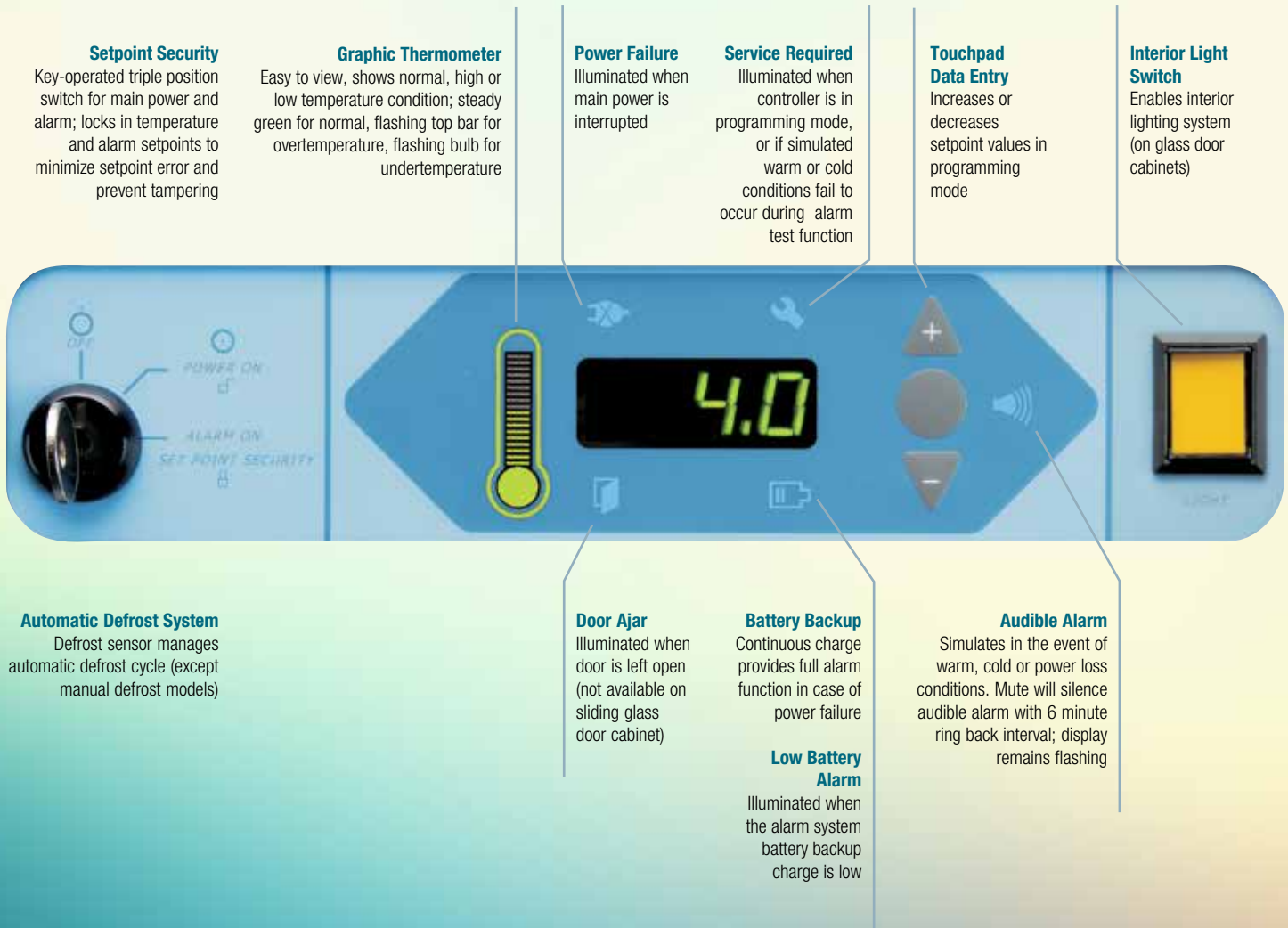
** Nominal capacity based on 450 mL whole blood bags.

Independent automated monitoring is required such as a chart recorder. Note: this medical application is considered Class II.

† Due to differences in building wiring regulations in Australia and New Zealand, the current draw for the W-voltage units rated less than 10A may utilize a 10A circuit breaker. This rating only applies to Australia and New Zealand. Confirm the amperage rating on the data plate. Contact your local sales representative for more information.

Microprocessor-Based Controller

simplifies operation, improves reliability



Our bright, easy to read display lets you know at-a-glance if your unit is running within range. Visual and audio alarms are designed to alert you in the event of a problem. Immediate access to high and low temperature parameters with the press of a button.

Touchpad Scan

Changes main display; also used to access various programming and service functions (alarm mute, recall 6 minutes).

Digital Display

Indicates cabinet temperature during normal operation, flashes during alarm condition or setpoint adjustment. Displays other values with touchpad sequence.

Service Parameters

Touchpad sequence allows override access to control function defaults for troubleshooting functions.

OPTIONS & ACCESSORIES



► **Shelves**



► **Wire Basket Drawers**



► **Enzyme Storage Bins**

Productive use of our high-performance refrigerators and freezers can be enhanced with options and accessories specifically designed to improve utility and convenience.

Many options are factory-installed and must be specified with your refrigerator and freezer order. Customer-installed options may require the services of a factory authorized technician. The ordering chart on the following page will inform you which options are factory- or customer-installed.

Before Ordering...

Serial number tags on all of our refrigerators and freezers provide model numbers and voltage information needed for accurate selection of options ordered for field installation. You can also refer to the refrigerator and freezer ordering charts in this brochure for model numbers and voltage information. It is recommended that options be ordered when your refrigerator or freezer is ordered. Factory-installed options eliminate down-time during product installation.

Door Swing Options and Heated Glass Door Options (Factory-Installed)

All high-performance refrigerators and freezers are right-hand swing but factory-installed, left hand swings are available. To mitigate condensation, heated glass door options are also available. Not all options are available on all models: see the chart on the following page.

Temperature Chart Recorders (Factory- or Customer-Installed)

Standard on blood bank refrigerators and plasma freezers but optional on other models. Chart recorders are 6" (15.2 cm), seven-day and use pressure-sensitive chart paper. One box of 50 charts is included with order.

Surge Suppressors (Factory-Installed)

Designed to prevent issues related to voltage surges.

Remote Alarm Modules (Factory-Installed)

Free-standing remote alarm modules tie-in to the standard remote alarm terminals on the refrigerators and freezers.

OPTIONS & ACCESSORIES



Alarm Delay Modules

The alarm delay eliminates nuisance alarms due to intermittent or transitory conditions such as lightning or brief power outages. The adjustable delay requires an alarm condition to exist continuously for a pre-determined time (adjustable) before a signal is released to a central alarm/monitoring system or telephone dialer.

- Adjustable delay from 0.5 to 32 minutes
- Red alarm indicator light remains flashing after transient condition is corrected; requires manual reset
- Signals chronic alarm conditions which may indicate impending component failure; allows time for inspection of corrective maintenance
- Inserts variable time interval between detection of alarm condition and transmission of signal
- Includes accurate digital timing circuit adjustable from 0.5, 1, 2, 4, 8, 18 or 32 minutes
- Operates independent of the line power; built-in battery and alarm test function uses customer supplied 9V battery

Digital Temperature Monitors

Simple, accurate and cost-effective, the digital temperature and power monitor provides both alarm/monitoring and digital temperature display in a single, self-contained unit. Standard features include high alarm, alarm mute and chirp, audio delay timer, remote alarm contacts (SPDT), NiCad battery backup and low voltage AC power supply. 120V, AC only.

- Can be installed on or adjacent to the refrigerator or freezer
- Activates an audible and visual warning in case of power failure or over-temperature condition
- Choose from single probe digital models or multiple probe, microprocessor-based models
- Temperature range is -100°C to 25°C
- Probe size 1.25"L x 0.25" diameter

4-20 milliamp (MA) transmitters

4-20 milliamp transmitters offer a point-to-point circuit to transmit signals from refrigerator and freezer sensors to a controller, sending an analog signal from 4 to 20 milliamps.

Specialty Electrical Plugs

For countries where NEMA 5-15, 6-15 and Continental EU plugs are not standard, specialty plug options are available. See the following page for these country-specific plugs.

Seismic Restraint Kits

Provides additional stability for regions prone to earthquakes.

e-Lock Adapter Kits

E-locks provide access control with audit-trail capabilities, as well as temperature monitoring. These kits require no electricity and are available in both factory- and customer-installed options for CompX™, Pyxis®, Omnicell® and McKesson™ locks.

CompX is a trademark of CompX International, Inc. Pyxis is a registered trademark of CareFusion Corporation. Omnicell is a registered trademark of Omnicell, Inc. McKesson is a trademark of McKesson Corporation.

Laboratory Refrigerators | OPTIONS & ACCESSORIES ORDERING GUIDE

Options for High-Performance Refrigerators Ordering Guide

	For use with refrigerator size →	4.9 cu. ft. (133 L)	11.5 cu. ft. (326 L)	23.3 cu. ft. (659 L)	29.2 cu. ft. (826 L)	45.8 cu. ft. (1297 L)	51.1 cu. ft. (1447 L)	78.8 cu. ft. (2231 L)
Door options (factory-installed)		Model No.	Model No.	Model No.	Model No.	Model No.	Model No.	Model No.
Left hand swing, solid door		7119	6995	6997	6999			
Left hand swing, glass door		7123	6996	6998	7000			
Left hand swing, heated glass door			7073	7075	7087			
Right hand swing, glass door		7118	7066	7012	7013			
Right hand swing, heated glass door			7074	7086	7088			
Double left hand swinging doors, solid							7001	
Double left hand swinging doors, glass							7067	
Double left hand swinging doors, heated glass							7089	
Double right hand swinging doors, solid							7068	
Double right hand swinging doors, glass							7069	
Double right hand swinging doors, heated glass							7090	
Double left and right hand swinging doors, solid							7019	
Double left and right hand swinging doors, glass							7014	
Double left and right hand swinging doors, heated glass							7091	
6" 7-day inkless chart recorders, -40°C to +25°C		Model no. (all sizes)						
Free-standing, customer-installed, 115V, 60Hz models								6383-7A
Free-standing, customer-installed, 208-230V, 60Hz models								6383-7D
Free-standing, customer-installed, 230V, 50Hz models (EU)								6383-7V
Free-standing, customer-installed, 230V, 50Hz models (UK)								6383-7W
Factory-installed (all voltages)								6183-7
Replacement chart paper, box of 50								6184
Surge suppressor (factory-installed)								
115V, 60Hz models								6402-1
208-230V, 60Hz models								6402-2
230V, 50Hz models								6402-3
Remote alarm modules (factory-installed)								
115V, 60Hz models								5612-1A
208-230V, 60Hz models								5612-2D
230V, 50Hz models								5612-3V
Alarm delay modules								
Battery operated								6903
Digital temperature monitors								
Single input channel, temperature range -100° to +25°C, set point resolution of 1°C, high temperature alarm only, numeric LCD display, red visual alarm, 8 ft. Teflon® lead wire, Velcro® mounting strap, 5" L x 2"D x 4.5"W (mm, 130 x 50 x 110), 120v, 60hz, with a 15amp dual prong plug (fits NEMA 5-15R)								6898
Deluxe electronic remote alarm								
Requires a dedicated, analog phone line								6224TA
4-20 milliamp transmitters								
Self-powered, factory-installed								7204
Non-powered, factory-installed								6907-1
Non-powered, customer-installed								6907-2
e-Lock adapter kits (does not include locks; single door models only)								
CompX adapter, factory-installed					CXELAF			
CompX adapter, customer-installed					CXELAC			
Pyxis glass door adapter, factory-installed					PXELAGF			
Pyxis glass door adapter, customer-installed					PXELAGC			
Pyxis solid door adapter, factory-installed					PXELASF			
Pyxis solid door adapter, customer-installed					PXELASC			
Omniceil glass door adapter, factory-installed					OMELAGF			
Omniceil glass door adapter, customer-installed					OMELAGC			
Omniceil solid door adapter, factory-installed					OMELASF			
Omniceil solid door adapter, customer-installed					OMELASC			
McKesson glass door adapter, factory-installed					MKELAGF			
McKesson glass door adapter, customer-installed					MKELAGC			
McKesson solid door adapter, factory-installed					MKELASF			
McKesson solid door adapter, customer-installed					MKELASC			
Stainless steel interior (factory-installed)								
Stainless steel interior finish		7116	6199-3A	6115	6709	6711	6116	6117
5°C setpoint (factory-installed)								
Not available for blood bank or chromatography models					7508TA		7508TA	

OPTIONS & ACCESSORIES ORDERING GUIDE

Accessories for High-Performance Refrigerators and Freezers

For use with refrigerator or freezer size →	4.9 cu. ft. (133 L)	11.5 cu. ft. (326 L)	23.3 cu. ft. (659 L)	29.2 cu. ft. (826 L)	45.8 cu. ft. (1297 L)	51.1 cu. ft. (1447 L)	78.8 cu. ft. (2231 L)
Shelves	Model no.	Model no.	Model no.	Model no.	Model no.	Model no.	Model no.
Epoxy-coated, full size shelf		7125	6696	6695		6696	
Epoxy-coated, half size shelf			6698	6697		6698	
Stainless steel, full size shelf	6202-1	6695-1	6696-1				
Drawer dividers for roll-out, stainless steel drawers							
4-place divider, order one divider per drawer		7027 (4)	6206 (4)	6963 (5)			6206 (4)
3" casters (note: all models ship standard with 2")							
Set of four, 3" (76mm) casters			6041-1		6694		6041-1
Additional wire basket drawers							
For pharmacy refrigerators		WB12	WB23/50	WB30		WB23/50	
Enzyme bins							
Labels not included				6736		6736	
Thermo Scientific Lab Cooler Module							
Holds twenty-four 1.5mL tubes and eight 0.5mL tubes				6744			
Seismic restraint kits							
Basic					TFR210		
For OSHPD		TF-LRF12	TF-LRF23	TF-LRF30	TF-LRF45	TF-LRF50	TF-LRF75

ADDITIONAL ACCESSORIES



► Gibco Media

Gibco™ media, sera, supplements, cells and cell culture reagents are designed to deliver reproducibility and performance for results you can count on. Regardless of whether you are performing cell culture in a research lab or production facility, need a special or defined formulation, or are growing cell lines, primary cells, or stem cells, Gibco products offer a reliable solution.



► Clinical Containers

Made with the highest quality resins, Thermo Scientific Nalgene™ bottles are engineered to work harder with a proprietary valve seal and a strong, semi-buttress thread design. Our Nalgene bottles offer a leakproof* guarantee because we manufacture and test both components together as part of our routine quality program.



► Cold Chain Monitoring

Thermo Scientific Smart-Tracker™ offers special features for mobile temperature tracking and data sharing via the Cloud. Place Smart-Tracker inside a crate or package and use the app to check it at different location. Each time you read Smart-Tracker, the data, complete with geo-location information from your smartphone can be uploaded to the Cloud and accessed from anywhere in the world.

*Our guarantee for a leakproof seal is subject to our standard product warranty, as set forth in the Thermo Fisher Scientific Terms and Conditions of Sale. Our products are leakproof at ambient temperature and pressure when used with their corresponding closures. However, to ensure safe usage, customers are advised to test our containers and closures under conditions of their planned applications. Please contact technicalsupport@thermofisher.com if you need additional information about our products.

Electrical Information

Thermo Scientific Revco high-performance refrigerators and freezers are designed to meet UL and CE criteria for safety and performance. See ordering charts for certifications per specific voltages. All connections must comply with local electrical codes.

- Selection charts for each standard model list voltage, rated amperage, recommended circuit breaker size, and NEMA (National Electrical Manufacturers' Association, USA) electrical plug information
- Most refrigerators and freezers are supplied with line cord plugs, which require corresponding receptacles illustrated on the line cord plug reference chart to the right
- Site preparation requires availability of the proper receptacle; a dedicated circuit is required
- Special voltage selections may be available at extra cost and must be specified when ordering
- For questions regarding site preparation, installation and electrical connection, contact your sales representative

Certification of Calibration

Control, alarm and temperature recording systems are systematically calibrated at the factory for accurate performance. An optional Certificate of Calibration to an NIST (National Institute of Standards and Technology, formerly National Bureau of Standards) traceable instrument includes a Model Number and Serial Number Certificate (single point calibration). Multiple point calibration is also available. Calibration certificates must be requested when ordering; for details contact your sales representative.















Validation Testing Program

Validation testing services in advance of shipment can accelerate in-house FDA Installation Qualification (IQ) and Operation Qualification (OQ) programs. Validation services include documentation and performance reports, compressor and subsystem component specifications, microprocessor flow diagrams, software specifications and more. For more details, contact your sales representative.

Model No.	Services Description
7455TA	Temperature mapping of 24 hours at setpoint to include: <ul style="list-style-type: none"> • Mapping data graphed at each location • Thermocouple placement diagram • Test equipment list • Average uniformity and stability at specified cycle • Minimum, average and maximum temperatures at each thermocouple location • Uniformity and stability at each location
7456TA	Temperature mapping of 24 hours (traceable instruments and raw data) at setpoint to include: <ul style="list-style-type: none"> • Mapping data graphed at each location • Thermocouple placement diagram • Test equipment list utilizing Kaye Validator® thermal validation equipment • Calibration certificates of test equipment • Thermocouple calibration reports • Average uniformity and stability at specified cycle • Minimum, average and maximum temperatures at each thermocouple location • Uniformity and stability at each location
6916-2	Certificate of calibration at the time of sale
6916-7	Certificate of calibration, post-shipment

Standard Plug Option Configurations

Choose one of our specialty plugs to configure your freezer to meet local requirements

Model No.	Plug Description	Male End
Standard Plugs		
US125V20A	NEMA 5-20	
US230V15A	NEMA 6-15	
EU230V16A	Continental EU	
Specialty Plugs		
IT230V16A	Italy	
UK230V13A	Great Britain	
IN230V16A	India	
IS230V16A	Israel	
AU230V16A	Australia	
AU230V10A	Australia	
CH230V16A	China	
DK230V16A	Denmark	
AR230V16A	Argentina	
SW230V16A	Switzerland	
BR230V16A	Brazil	

Refrigerators and freezers supplied with line cord plugs (P) require corresponding receptacles illustrated in the Line Cord Plug Reference. Catalog selection charts list each standard model with voltage, rated amperage, recommended circuit breaker size and NEMA electrical plug information.

Thermo Scientific Smart-Vue

with so much at stake,
obsessive is smart

The Thermo Scientific™ Smart-Vue™ wireless monitoring solution safeguards the integrity of precious samples by continuously monitoring critical parameters of laboratory equipment and securely logging data to give you peace-of-mind. This wireless solution features audit trail traceability to assist with conformance to 21 CFR part 11, and other regulatory requirements.

Smart

Continuous, real-time monitoring of critical parameters – alerting you remotely when sample integrity is threatened

Scalable

Flexibility to grow with your expanding laboratory needs

Simple

Easy to install, use and maintain



For more information, contact your sales representative. Smart-Vue is not available in all Radio Frequency (RF) regions.

Note: Smart-Vue wireless monitoring kits are designed for first time users monitoring critical temperature parameters in ultra-low temperature freezers. Smart-Vue modules and sensors are available for temperature, RH, CO₂ concentration, differential pressure, 4-20mA output, ambient conditions and alarm/relay dry contacts. Solutions vary by RF regions worldwide and are compatible with multiple types of laboratory equipment. Please ask your sales representative to evaluate a Smart-Vue wireless monitoring solution that best meets your specific needs.

