



Thermo Scientific Forma -86°C Chest and Upright Freezers

Sample Storage Products You Can Trust



Everyday sample storage protection.

State-of-the-art, patented refrigerated system improves temperature control for more consistent temperature cycling and increases reserve BTUH capacity, resulting in a more stable temperature sample.

Sturdy, solid, stainless steel shelving to support a full product load.

Easy-to-clean interior: 8600 and 900 Series freezers feature a stainless steel interior.

Four interior compartment doors in uprights and polystyrene sub-lid(s) in chests reduce cold air loss, improving temperature recovery after door closings. Five inner-door option is available for uprights.

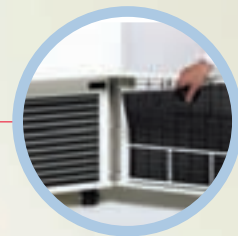
Convenient, hinged, air filter grill allows easy access for inspection, cleaning and/or changing.

Ergonomically designed handle is cam-actuated to ensure a proper compression ratio around the door seal, while minimizing the effort required during freezer openings and closings.



ENERGY-EFFICIENT, DOUBLE DOOR DESIGN

It's a unique design! Store frequently used specimens and samples in the top chamber, while long-term storage items remain undisturbed in the bottom.



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Optional built-in chart recorder or digital datalogger can be installed at eye level on our 8600 and 900 Series Freezers for continuous monitoring.

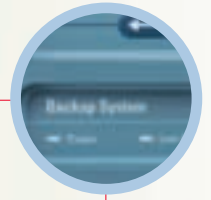


Rugged Cabinet Construction for Everyday Use

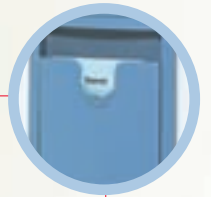
Heavy gauge, cold-rolled steel cabinets have a powder coat paint finish for a uniform exterior surface that resists chipping and rust.

Maximum product protection is provided by approximately 5.0" (127mm) of foamed-in-place polyurethane insulation in the cabinet that:

- reduces the amount of power consumed
- allows the cabinet to reach and maintain the temperature setpoint
- combined with triple-point door gasket provides longer holding times in the event of a power failure



Optional CO₂ and LN₂ safety back-up systems are available to provide additional sample protection in the event of a power or mechanical failure.



Storage pocket on 8600 Series uprights tilts forward, serving as a handy, centralized location for daily logs, IQ/OQ procedures, inventory control records, or the freezer's operating and maintenance manual.



Thermo Scientific Nalgene and Nunc cryogenic storage give you everything you need to safely store precious specimens, organize freezer space and simplify sample retrieval.

Nalgene and Nunc combine to provide one-stop shopping for the widest variety and highest quality of externally and internally threaded cryovials, storage boxes, lab top coolers and "Mr. Frosty" controlled rate freezing containers.



Thermo Scientific Forma 8600 Series

Upright and Chest Freezers for Ultimate Sample Protection

Our 8600 Series freezers are designed for pharmaceutical, biotech, blood bank applications, and any other industry that requires validation for critical sample storage.



Temperature: Displays actual and sample probe (optional) temperatures

Audible/Visual Alarm

Low Battery and Hot Condenser Indicators

Mode: Select Run, Settings, Calibrate, or Configuration mode

Configuration: Configure Access Code, Serial Output, Temperature Alarm Test, and System Battery Test

Message Center: 12-character alphanumeric LED displays setpoints, "SYSTEM OK" during normal operation, and other messages

Scroll for Program Parameters

Settings: Set Cabinet Temp Setpoint, Overtemp Alarm, Undertemp Alarm, and Back-Up System Temp Setpoint (optional)

Calibrate: Calibrate Control Probe Temp and Sample Probe Temp (optional)

Additional Sample Protection Features:

RS-232 and 4-20 milliamp analog outputs are standard. The 4-20 milliamp output is a common analog output used to provide temperature data to independent monitoring devices and recorders. Output configurations other than the RS-232, 4-20 milliamp default are available (i.e., RS-485 or RS-232, and 0-1V, 4-20 milliamp, or 0-5V).

Optional sample probe in the top chamber of 8600 Series uprights measures sample temperature or top chamber temperature, assuring you of the sample temperature or uniformity between the top and bottom freezer.

Enviro-Scan for Easy Setup, Programming and Monitoring

The centralized information center, which includes the Enviro-Scan Microprocessor Control/Monitoring System (shown below left) and an optional chart recorder or datalogger, ensures that all controls and displays are easy to reach and read.

- Highly visible display, intuitive controls and simplified programming make it easy to set up, program, check, and monitor parameters and conditions.
- Personal access code ensures setpoint security.
- Numerous audible/visual alarms (e.g., power failure, high/low temp, door ajar, condenser hot, probe failure, etc.) as well as high/low alarm test offer peace-of-mind monitoring of your samples.

8600 Series, Double Door Uprights

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
15474355	13.0 (368.1)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 19.3 (1308 x 584 x 490)	77.8 x 33.3 x 31.0 (1976 x 846 x 787)	712 (323)
15474354		230V, 50/60 Hz	12/15 (P4)			
15474356	17.3 (489.9)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 25.3 (1308 x 584 x 643)	77.8 x 33.3 x 37.0 (1976 x 846 x 940)	795 (360.6)
15474357		230V, 50/60 Hz	12/15 (P4)			
15474353	23.0 (651.3)	120V, 50/60 Hz	16/20 (P2)	51.5 x 30.6 x 25.3 (1308 x 777 x 643)	77.8 x 40.8 x 37.0 (1976 x 1036 x 940)	900 (408.2)
15474358		230V, 50/60 Hz	12/15 (P4)			

8600 Series, Single Door Uprights

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
15474343	13.0 (368.1)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 19.3 (1308 x 584 x 490)	77.8 x 33.3 x 31.0 (1976 x 846 x 787)	712 (323)
15474342		230V, 50/60 Hz	12/15 (P4)			
15474344	17.3 (489.9)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 25.3 (1308 x 584 x 643)	77.8 x 33.3 x 37.0 (1976 x 846 x 940)	795 (360.6)
15474345		230V, 50/60 Hz	12/15 (P4)			
15474352	23.0 (651.3)	120V, 50/60 Hz	16/20 (P2)	51.5 x 30.6 x 25.3 (1308 x 777 x 643)	77.8 x 40.8 x 37.0 (1976 x 1036 x 940)	900 (408.2)
15474346		230V, 50/60 Hz	12/15 (P4)			
15474347	28.0 (792.8)	230V, 50/60 Hz	12/15 (P4)	51.5 x 36.6 x 27.0 (1308 x 930 x 686)	77.8 x 46.8 x 37.0 (1976 x 1189 x 940)	980 (444.5)

8600 Series, Chests

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
15474349	12.7 (359.6)	120V, 50/60 Hz	16/20 (P2)	28.0 x 42.5 x 18.5 (711 x 1080 x 470)	40.5 x 72.0 x 28.8 (1029 x 1829 x 732)	716 (324.8)
15474348		230V, 50/60 Hz	12/15 (P4)			
15474351	20.0 (566.3)	120V, 50/60 Hz	16/20 (P2)	28.0 x 66.5 x 18.5 (711 x 1689 x 470)	40.5 x 96.0 x 28.8 (1029 x 2438 x 732)	833 (377.8)
15474350		230V, 50/60 Hz	12/15 (P4)			

* Upright freezers pass through a 34.0" (86.4cm) wide doorway with door and front panel opened 180 degrees, and rolling the freezer from side-to-side.

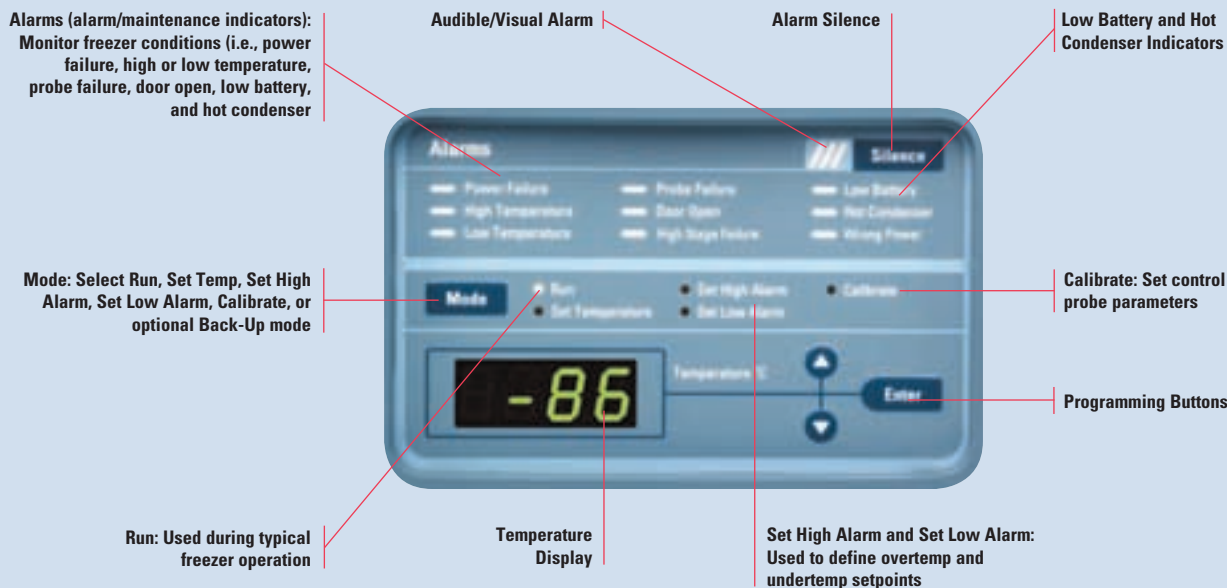
Thermo Scientific Forma 900 Series

Upright Freezers for Daily Sample Protection and Dependability

Our 900 Series freezers are designed for universities, research facilities and industrial institutions where easily adjustable shelves, easy-to-access controls and convenient at-a-glance monitoring are preferred.

The centralized information center, which includes a microprocessor control and monitoring system and an optional chart recorder or datalogger, ensures that all controls and displays are easy-to-reach and read.





900 Series, Double Door Uprights

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
15474337	13.0 (368.1)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 19.3 (1308 x 584 x 490)	77.8 x 33.3 x 31.0 (1976 x 846 x 787)	712 (323)
15474336		230V, 50/60 Hz	12/15 (P4)			
15474338	17.3 (489.9)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 25.3 (1308 x 584 x 643)	77.8 x 33.3 x 37.0 (1976 x 846 x 940)	795 (360.6)
15474339		230V, 50/60 Hz	12/15 (P4)			
15474340	23.0 (651.3)	120V, 50/60 Hz	16/20 (P2)	51.5 x 30.6 x 25.3 (1308 x 777 x 643)	77.8 x 40.8 x 37.0 (1976 x 1036 x 940)	900 (408.2)
15474341		230V, 50/60 Hz	12/15 (P4)			

900 Series, Single Door Uprights

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
15474330	13.0 (368.1)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 19.3 (1308 x 584 x 490)	77.8 x 33.3 x 31.0 (1976 x 846 x 787)	712 (323)
15474329		230V, 50/60 Hz	12/15 (P4)			
15474331	17.3 (489.9)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 25.3 (1308 x 584 x 643)	77.8 x 33.3 x 37.0 (1976 x 846 x 940)	795 (360.6)
15474332		230V, 50/60 Hz	12/15 (P4)			
15474333	23.0 (651.3)	230V, 50/60 Hz	12/15 (P4)	51.5 x 30.6 x 25.3 (1308 x 777 x 643)	77.8 x 40.8 x 37.0 (1976 x 1036 x 940)	900 (408.2)
15474335		120V, 50/60 Hz	16/20 (P2)			
15474334	28.0 (792.8)	230V, 50/60 Hz	12/15 (P4)	51.5 x 36.6 x 27.0 (1308 x 930 x 686)	77.8 x 46.8 x 37.0 (1976 x 1189 x 940)	980 (444.5)

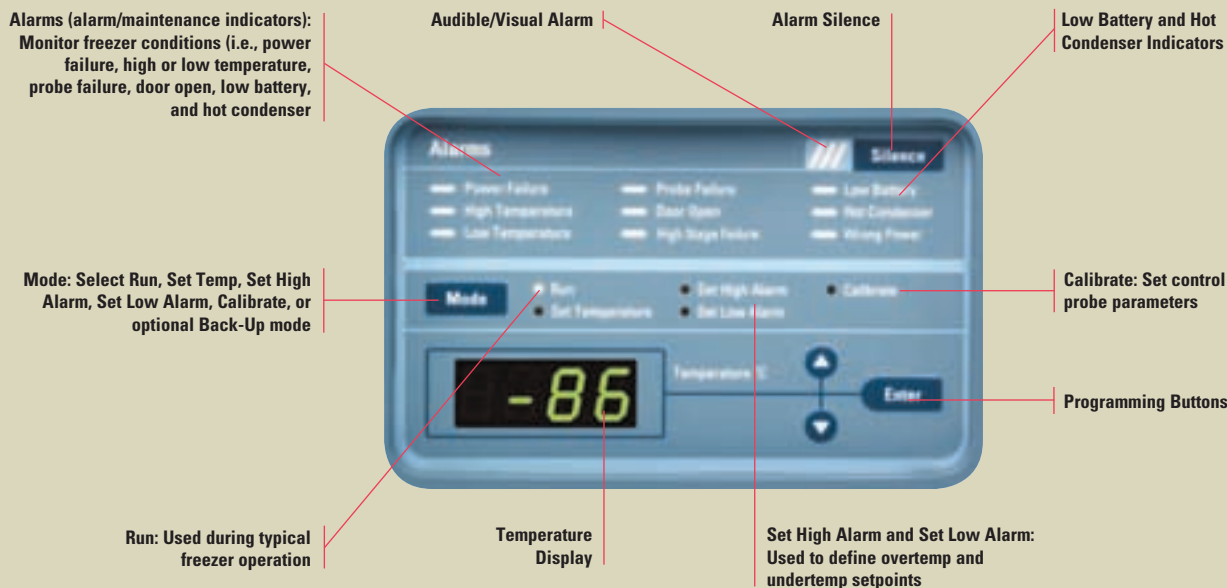
* Upright freezers pass through a 34.0" (86.4cm) wide doorway with door and front panel opened 180 degrees, and rolling the freezer from side-to-side.

Thermo Scientific Forma 700 Freezers



Our 700 freezers are designed for clinical and academic institutions that require no-frills functionality without compromising sample protection. The information features simplified programmable controls, a temperature display and an optional chart recorder or datalogger for continuous monitoring.





700 Series, Chests

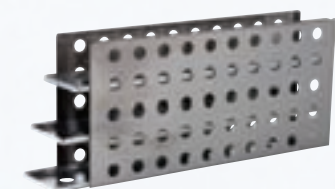
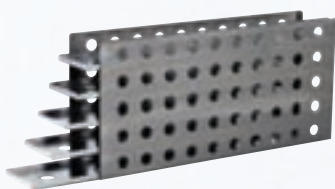
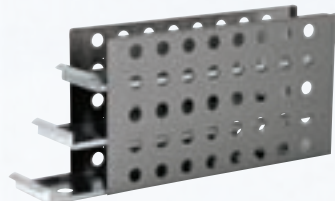
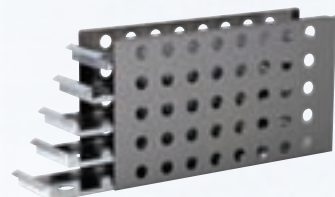
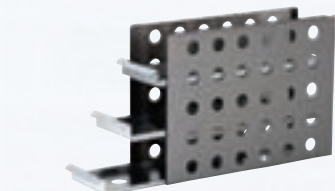
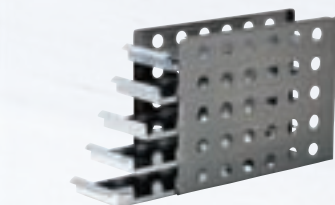
Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
11700360	3.0 (84.9)	115V, 60 Hz	10.5/15 (P1)	16.5 x 18.5 x 18.5 (419 x 470 x 470)	43.8 x 28.5 x 28.8 (1113 x 724 x 732)	432 (196)
11700361		230V, 50 Hz	5.4/15 (P4)			
11700362	12.7 (359.6)	120V, 50/60 Hz	16/20 (P2)	28.0 x 42.5 x 18.5 (711 x 1080 x 470)	40.5 x 72.0 x 28.8 (1029 x 1829 x 732)	716 (324.8)
11700363		230V, 50/60 Hz	12/15 (P4)			
11700364	17.0 (481.4)	230V, 50/60 Hz	12/15 (P4)	28.0 x 58.8 x 18.5 (711 x 1494 x 470)	40.5 x 87.6 x 28.8 (1029 x 2225 x 732)	821 (372.4)
11700366	20.0 (566.3)	120V, 50/60 Hz	16/20 (P2)	28.0 x 66.5 x 18.5 (711 x 1689 x 470)	40.5 x 96.0 x 28.8 (1029 x 2438 x 732)	833 (377.8)
11700365		230V, 50/60 Hz	12/15 (P4)			

700 Series, Uprights

Temperature Range -50°C to -86°C						
Cat. No.	Capacity cu. ft. (L)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
11700368	13.0 (368.1)	230V, 50/60 Hz	12/15 (P4)	51.5 x 23.0 x 19.3 (1308 x 584 x 490)	77.8 x 33.3 x 31.0 (1976 x 846 x 787)	603.7 (274.4)
11700367		120V, 50/60 Hz	16/20 (P2)			
11700369	17.3 (489.9)	120V, 50/60 Hz	16/20 (P2)	51.5 x 23.0 x 25.3 (1308 x 584 x 643)	77.8 x 33.3 x 37.0 (1976 x 846 x 940)	795 (360.6)
11700370		230V, 50/60 Hz	12/15 (P4)			
11700372	23.0 (651.3)	230V, 50/60 Hz	12/15 (P4)	51.5 x 30.6 x 25.3 (1308 x 777 x 643)	77.8 x 40.8 x 37.0 (1976 x 1036 x 940)	900 (408.2)
11700371		120V, 50/60 Hz	16/20 (P2)			

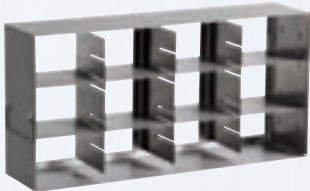
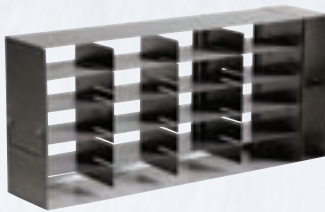
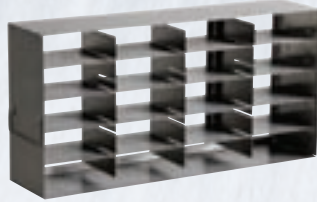
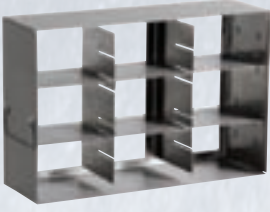
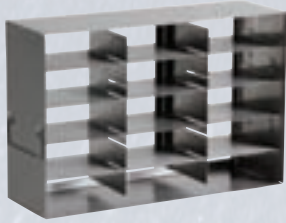
* Upright freezers pass through a 34.0" (86.4cm) wide doorway with door and front panel opened 180 degrees, and rolling the freezer from side-to-side.

Thermo Scientific Rack Systems for Upright Freezers



Cat. No.	Description W x H x D inches (W x H x D mm)	Freezer Volume cu ft (L)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/ Shelf	Total Racks/ Freezer
Sliding Drawer for Single Door Freezers and Bottom Half of Double Door*						
13994098	With 2" boxes					
13994121	Without boxes					
	5.5 x 11.9 x 16.6 (140 x 302 x 422)	13 (368)	15		4	16/8*
13994099	With 3" boxes					
13994122	Without boxes					
	5.5 x 11.9 x 16.6 (140 x 302 x 422)	13 (368)		9	4	16/8*
13994100	With 2" boxes					
13994123	Without boxes					
	5.5 x 11.9 x 22.0 (140 x 302 x 559)	17.3 (490)	20		4	16/8*
		23 (651)	20		5	20/10*
13994101	With 3" boxes					
13994124	Without boxes					
	5.5 x 11.9 x 22.0 (140 x 302 x 559)	17.3 (490)		12	4	16/8*
		23 (651)		12	5	20/10*
13994096	With 2" boxes					
13994119	Without boxes					
	5.6 x 11.8 x 26.3 (142 x 300 x 668)	28 (793)	25		6	24
13994097	With 3" boxes					
13994120	Without boxes					
	5.6 x 11.8 x 26.3 (142 x 300 x 668)	28 (793)		15	6	24

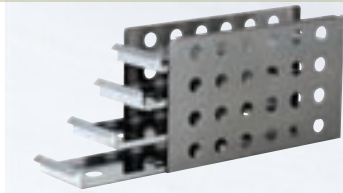
* Total racks/freezer capacity in the bottom half of double door models



Cat. No.	Description W x H x D inches (W x H x D mm)	Freezer Volume cu ft (L)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/ Shelf	Total Racks/ Freezer
Side Access for Single Door Freezers and Bottom Half of Double Door* with adjustable shelves						
13994080	With 2" boxes					
13994115	Without boxes					
	5.5 x 10.9 x 16.5 (140 x 277 x 419)	13 (368)	15		4	16/8*
13994075	With 3" boxes					
13994113	Without boxes					
	5.5 x 10.9 x 16.5 (140 x 277 x 419)	13 (368)		9	4	16/8*
13994083	With 2" boxes					
13994117	Without boxes					
	5.5 x 10.9 x 22 (140 x 277 x 559)	17.3 (490)	20		4	16/8*
		23 (651)	20		5	20/10*
13994084	With 2" boxes					
13994118	Without boxes					
	5.5 x 10.9 x 24.6 (140 x 277 x 625)	17.3 (490)	22		4	16/8*
		23 (651)	22		5	20/10*
13994082	With 3" boxes					
13994116	Without boxes					
	5.5 x 10.9 x 22 (140 x 277 x 559)	17.3 (490)		12	4	16/8*
		23 (651)		12	5	20/10*

* Total racks/freezer capacity in the bottom half of double door models

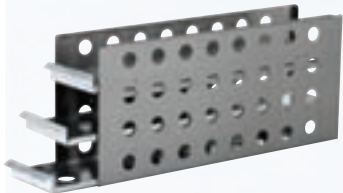
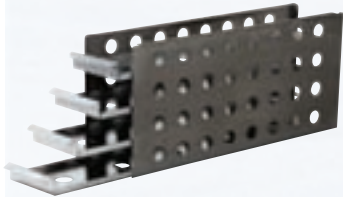
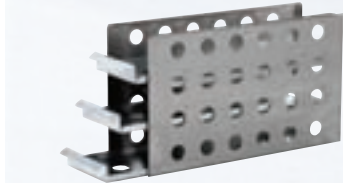
Thermo Scientific Rack Systems for Upright Freezers continued



Cat. No.	Description W x H x D inches (W x H x D mm)	Freezer Volume cu ft (L)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/ Shelf	Total Racks/ Freezer
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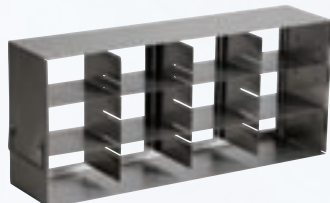
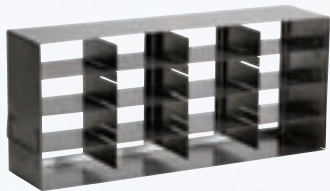
Sliding Drawer for Single Door Freezers with 5 Inner Door Option Top Half of Double Door Freezers*

13994102 13994125	With 2" boxes					
	Without boxes					
	5.5 x 9.5 x 16.6 (140 x 241 x 422)	13 (368)	12		4	20/8*
13994103 13994126	With 3" boxes					
	Without boxes					
	5.5 x 9.5 x 16.6 (140 x 241 x 422)	13 (368)		9	4	20/8*
13994105 13994127	With 2" boxes					
	Without boxes					
	5.5 x 9.5 x 22 (140 x 241 x 559)	17.3 (490)	16		4	20/8*
		23 (651)	16		5	25/10*
13994106 13994128	With 3" boxes					
	Without boxes					
	5.5 x 9.5 x 22 (140 x 241 x 559)	17.3 (490)		12	4	20/8*
		23 (651)		12	5	25/10*
13994096 13994119	With 2" boxes					
	Without boxes					
	5.5 x 9.4 x 26.3 (140 x 238 x 668)	28 (792.8)	20		6	30/8*
13994097 13994120	With 3" boxes					
	Without boxes					
	5.5 x 9.4 x 26.3 (140 x 238 x 668)	28 (792.8)		15	6	30/8*



Side Access for Single Door Freezers with 5 Inner Door Option Top Half of Double Door Freezers*

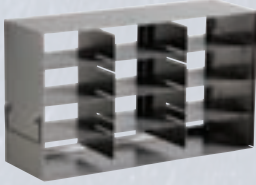
13994009 13994131	With 2" boxes					
	Without boxes					
	5.5 x 9.4 x 22 (140 x 239 x 559)	17.3 (490)	16		4	20/8*
		23 (651)	16		5	25/10*
13994007 13994130	With 3" boxes					
	Without boxes					
	5.5 x 9.4 x 22 (140 x 239 x 559)	17.3 (490)		12	4	20/8*
		23 (651)		12	5	25/10*



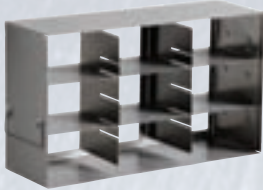
* Total racks/freezer capacity in the bottom half of double door models

Cat. No.	Description W x H x D inches (W x H x D mm)	Freezer Volume cu ft (L)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/ Shelf	Total Racks/ Freezer
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Side Access for Single Door Freezers with 5 Inner Door Option Top Half of Double Door Freezers*



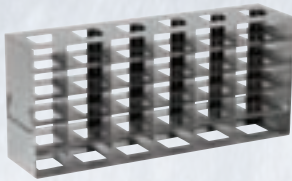
13994023 13994133	With 2" boxes					
	Without boxes 5.5 x 9.5 x 16.6 (140 x 241 x 422)	13 (368)	12		4	20/8*



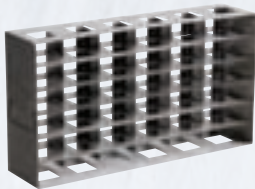
13994021 13994132	With 3" boxes					
	Without boxes 5.5 x 9.5 x 16.6 (140 x 241 x 422)	13 (368)		9	4	20/8*

Deepwell Microplate Racks with Handle for Single Door Freezer with 4 Inner Shelves

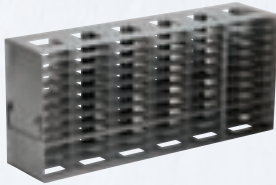
(for other configurations, please contact your sales representative)



13994087	30 position 5.5 x 9.4 x 16.6 (140 x 239 x 422)	17.3 (490)			4	16
		23.0 (651)			5	20



13994089	36 position 5.5 x 12 x 22 (140 x 305 x 559)	17.3 (490)			4	16
		23.0 (651)			5	20



13994093	66 position 5.5 x 9.4 x 16.6 (140 x 239 x 422)	17.3 (490)			4	16
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Miscellaneous Racks



13994107	Multi-Drawer Rack 11.2 x 11.5 x 11.1 (284 x 292 x 282)	13 (368)			1	4
		17.3 (490)			2	8
		23 (651)			4	16

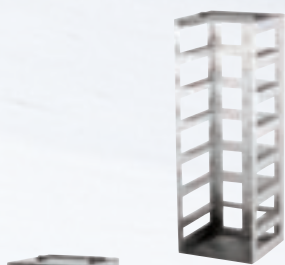


13994108	Storage Container (8 compartments) 7 x 5.3 x 18.1 (178 x 135 x 460)	13 (368)			6	24
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13994109	Storage Container (10 compartments) 7 x 5.3 x 22.6 (178 x 135 x 574)	17.3 (490)			6	24
		23 (651)			8	32

* Total racks/freezer capacity in the bottom half of double door models

Thermo Scientific Rack Systems for Chest Freezers



Cat. No.	Description W x H x D inches (W x H x D mm)	Freezer Volume cu ft (L)	Quantity of 2" Boxes	Quantity of 3" Boxes	Total Racks/ Freezer
Rack with Handle					
13994073 13994111	With 2" boxes				
	Without boxes 5.5 x 16 x 5.5 (140 x 406 x 140)	3 (85) 6.7 (190)	7 7		9 18
13994072 13994110	With 3" boxes				
	Without boxes 5.5 x 16 x 5.5 (140 x 406 x 140)	3 (85) 6.7 (190)		5 5	9 18
13994078 13994114	With 2" boxes				
	Without boxes 5.5 x 26.5 x 5.5 (140 x 673 x 140)	12.7 (360) 17 (481) 20 (566)	12 12 12		21 29 33
	With 3" boxes				
13994074 13994112	Without boxes 5.5 x 26.5 x 5.5 (140 x 673 x 140)	12.7 (360) 17 (481) 20 (566)		8 8 8	21 29 33
	With 3" boxes				
	Without boxes				
Microplate Rack with Handle					
13994086	27 position 5.3 x 25.8 x 3.6 (135 x 655 x 91)	12.7 (360)			33
		17 (481)			48
		20 (566)			51
Miscellaneous Racks					
13994000	Wire basket with rollers 11.8 x 12.3 x 16.5 (248 x 311 x 419)	12.7 (360) * 20 (566) **			5 9
	*Requires one rail set # 189001 **Requires one rail set # 189000				

Thermo Scientific Accessories

Cat. No. **Description**

Storage Boxes

	5.3" x 5.3" (13.5cm x 13.5cm)
13994070	2.0" (5.1cm) high box (water repellent cardboard box with 81 cell dividers)
13994071	3.0" (7.6cm) high box (water repellent cardboard box with 81 cell dividers)
13994076	2.0" (5.1cm) high polycarbonate box, includes 100-cell divider with 0.5" (1.3cm) openings, 5.3" x 5.3" x 2.0"H (13.5cm x 13.5cm x 5.1cm), Holds 1.0, 1.5, and 2.0ml vials and features a numerical grid system printed on the cover for inventory purposes
13994077	2.0" (5.1cm) high polycarbonate box, includes 81-cell divider with 0.5" (1.3cm) openings, 5.3" x 5.3" x 2.0"H (13.5cm x 13.5cm x 5.1cm), Holds 1.0, 1.5, and 2.0ml vials and features a numerical grid system printed on the cover for inventory purposes
13994079	3.0" (7.62cm) high polycarbonate box, includes 81-cell divider with 0.5" (1.3cm) openings, 5.3" x 5.3" x 3.3"H (13.5cm x 13.5cm x 8.4cm), Holds 3.0, and 4.0ml cryotubes and features a numerical grid system printed on the cover for inventory purposes

Cell Dividers

13994081	16-cell, 1.22" (3.0cm) nominal opening
13994085	25-cell, 0.98" (2.5cm) nominal opening
13994091	49-cell, -0.70" (1.7cm) nominal opening
13994092	64-cell, 0.61" (1.5cm) nominal opening
13994095	81-cell, 0.54" (1.3cm) nominal opening
13994104	100-cell, 0.49" (1.1cm) nominal opening
4000221	Cryo Marker Pens, four fine tip pens (black, blue, green and red) with fast-drying, non-smearing, permanent ink

6", 7 Day Temperature Recorders -100°C to +38°C (-148°F to +100°F)

Chart recorders are installed within easy view (e.g., eye level on uprights) and reach on our 8600 and 900 Series Freezers for easy monitoring and paper changes, and in the base of the 700 Series. These chart recorders are for current 120V and 230V Forma freezer models. Recorders for discontinued models are also available. Contact us for details.

13994047	Recorder, customer installed*	Includes single felt-tip pen and box of chart paper.
13994048	Recorder, factory installed	Includes single felt-tip pen and box of chart paper.
13994001	Chart paper, 50 charts per box	
13994057	Red felt-tip replacement pen	
13994058	Blue felt-tip replacement pen	

6", 7 Day Inkless Circular Chart Recorders +50°C to -115°C (-175°F to +122°F)

(-175°F to 122°F), single pressure-sensitive pen, includes inkless pen and box of chart paper

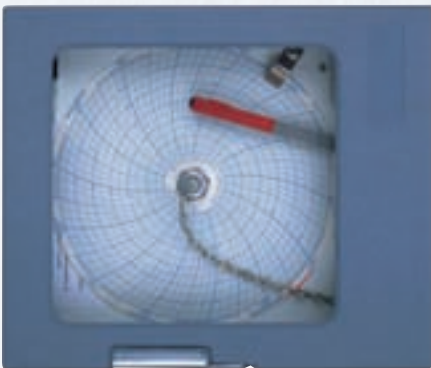
13994051	Inkless recorder, customer installed* (includes single pressure-sensitive inkless pen and box of chart paper)
13994052	Inkless recorder, factory installed (includes single pressure-sensitive inkless pen and box of chart paper)
13994002	Chart paper, 50 charts per box

Built-in Dataloggers, -90°C to +140°C (-130°F to +284°F)

Dataloggers are located within easy view (e.g., eye level on uprights) and reach on our 8600 and 900 -86°C Series Freezers for easy monitoring, and in the base of the 700 Series.

Dataloggers are designed to meet U.S. FDA guidelines cGLP 21 CFR Part 58, Software Validation 21 CFR Part 820, and Electronic Records 21 CFR Part 11. Full compliance requires user training. Contact your sales representative for an implementation quotation.

13994049	Datalogger, customer installed* (includes evaluation software and PC data cable)
13994050	Datalogger, factory installed (includes evaluation software and PC data cable)



* Must be installed by qualified personnel



Cat. No. Description

Safety Back-Up Systems, Wall Clamp, and Hoses

Back-up systems provide the convenience, reassurance, and reliability you need in the event of a power or mechanical failure. A CO₂ or LN₂ safety back-up system is a must for your critical storage applications.

Back-up systems for uprights and chests

13994029	Deluxe CO ₂ back-up, factory installed
13994030	Deluxe CO ₂ back-up, customer installed*
13994031	LN ₂ back-up, factory installed
13994032	LN ₂ back-up, customer installed
13994129	Wall clamp, CO ₂ cylinder holder for securing tank to wall in accordance with OSHA regulations
13994134	High pressure liquid CO ₂ hose, kink resistant with stainless steel liner covered with double-braided stainless steel sheath, NPT Type 316 stainless steel female fitting, maximum working pressure 2500 psig in 6 ft. (1.8m) lengths
13994063	LN ₂ transfer hose, flexible 6 ft. (1.8m) metal hose, 0.5" (1.3cm) diameter 45 degree flare with swivel ends

Sensaphone® Telephone Dialing Systems (not available for sales requiring CE)

The system interfaces with any standard touch tone phone to notify you of alarm conditions. You are also able to call the lab or office from anywhere, and the system will state the status of every monitored condition.

Battery back-up is standard (six D-size alkaline batteries are required). Battery life is up to 15 hours after the AC power has failed, and up to 18 months with AC power on.

The Sensaphone can be used with our Model 1535 Monitor/Alarm System that features programmable audible/visual alarms and updates/displays equipment conditions on an LCD readout.

13994066	Monitors up to four inputs (channels) and dials up to four numbers 120V/60Hz
13994069	Monitors up to eight inputs (channels) and dials up to eight numbers 120V/60Hz



* Must be installed by qualified personnel

Temperature/Power Monitors

Digital and audible/visual alarms are ideal for monitoring the temperature and power supply of freezers, lab refrigerators, and incubators, or other equipment within the specified temperature ranges.

The Digital Temperature/Power Monitor with alarm silence, which can be mounted to your equipment, includes one temperature probe encased in a stainless steel sheath with a 20 ft. (6.1m) lead wire. Monitoring range is -135°C to 99°C (-211°F to 210.2°F).

Digital temperature readout is easy to view.

Indicator lights exist for power, normal operation and alarm. Audible alarm also sounds if a power failure or alarm condition occurs.

Adjustable high/low alarms can be set digitally. Alarm silence is momentary-timed. Key switch allows standby mode until temperature is fully recovered and then rings back to remind you to switch to normal operation. Alarm test system (high alarm only) is standard.

The unit also features a recharging nickel cadmium battery back-up system, remote alarm contacts, millivolt output signal (for use with our Model 1535 Monitor/Alarm System), and an 8 ft. (2.4m) electrical line cord.

Digital Temp/Power Monitors, 10.0"W x 10.0"H x 4.0"F-B (25.4cm x 25.4cm x 10.2cm)

13994067	120V, 60 Hz
13994068	230V, 50 Hz





Cat. No. **Description**

Audible/Visual Temperature/Power Monitor

Compact Temperature/Power Monitor, which operates on a 120V power source, attaches to a wall or equipment for convenient single unit monitoring. The monitoring range is -90°C to 40°C (-130°F to 104°F).

Audible/visual alarms alert you of over and undertemperature conditions and power loss (alarm can be reset when cabinet temperature returns to normal). Battery back-up power keeps the monitor operational, even during a power failure.

Ringback system provides additional protection. The self-contained probe avoids reliance on equipment remote alarm contacts, providing an additional level of safety. Unit includes remote alarm contacts for connection to a remote alarm.

13994059 Temp/Power Monitor, 120V, 60 Hz; 4.3"W x 6.3"H x 2.0"F-B
(10.9cm x 16.0cm x 5.1cm)

Remote Alarms

Our Remote Alarms are designed for areas where an alarm may not be readily heard. These alarms extend your existing alarm system to a remote location in the facility.

The lightweight units attach to a wall or cabinet for convenience. The alarms operate on line voltage and switch to battery back-up if a power failure occurs. The remote alarms can be connected easily to a temperature/power monitor and remote alarm contacts on our products.

Units come complete with an audible alarm silence switch and alarm ringback feature. You can temporarily defeat any alarm, but the system rings back as a reminder to reset when normal conditions are restored.

No. 13994061 and No. 13994060 include audible and/or visual alarms to indicate an alarm condition on monitored equipment.

Remote Alarms 4.3" x 6.3"H (10.9cm x 16.0cm)

13994060 120V, 60 Hz; audible signal; 2.0" (5.1 cm) F-B
13994061 120V, 60 Hz; audible and visual signal; 1.5" (3.8 cm) F-B
13994064 230V, 50 Hz; audible and visual signal; 1.5" (3.8 cm) F-B

Data Outputs

Although RS-232 and 4-20 milliamp analog outputs are standard on the 8600 Series, we offer the following options to meet your specific needs.

Optional Data Outputs, factory installed (available on 8600 series only)

13994029 RS-232, 0-1V
13994030 RS-232, 0-5V
13994031 RS-485, 4-20 milliamp
13994032 RS-485, 0-1V
13994040 RS-485, 0-5V

RS-232 allows connection to a computer, recorder, or independent monitoring device. (RS-232 is not compatible with our Model 1535 Monitor/Alarm System). RS-485 allows direct connection to the Model 1535 Monitor/Alarm System

Cryo Gloves

Wrist-Length, 12.0" (30.5cm), one pair
13994016 Small
13994017 Medium
13994018 Large

Mid-Arm Length, 14.0" to 15.0" (35.6cm to 38.1cm), one pair
13994011 Medium
13994012 Large
13994013 Extra Large

Elbow-Length, 18.0" to 30.0" (45.7cm to 50.8cm), one pair
13994014 Medium
13994015 Large



Cat. No.	Description
Inner Door Kits for Uprights	
	Interior compartment doors reduce cold air loss and improve temperature recovery after door closings. (Four interior doors are already included on our -86°C uprights).
13994024	Interior Door Kit for Forma -40°C Lab Freezers (uprights), Includes four interior doors with latches, factory installed
	Five Inner Door Option for 8600 and 900 Series, includes five powder Coated inner doors and one additional shelf, factory installed
13994005	For 13.0 cu.ft. uprights
13994019	For 17.3 cu.ft. uprights
13994006	For 23.0 cu.ft. uprights
13994028	For 28.0 cu.ft. uprights
Water-Cooled Condenser Option	
	The water-cooled condenser option is available for our -86°C uprights and -86°C 12.7, 17.0 and 20.0 cu.ft. chests.
	Your work environment stays cooler because 50% less heat is emitted to your surroundings (i.e., less BTU rejection). A water regulating valve automatically controls the water flow needed to maintain the compressor discharge pressure. Cooler compressor temperatures enhance compressor stability and reliability.
	Water-Cooled Condensers
13994044	For 13.0 cu.ft. uprights
13994045	For 17.3, 23.0, and 28.0 cu.ft. uprights
13994046	For 12.7, 17.0, and 20.0 cu.ft. chests
	Like our standard freezers, those with the water-cooled condenser options are also UL Listed to Canadian and United States requirements and bear the CE Mark.
Condenser Specifications	
	These specifications apply to tower and city water sources.
	Water Pressure and Temperature
	Maximum Pressure 150 psig
	Maximum Temperature 29.4°C (85°F)
	Connections
	Inlet 0.5" compression
	Outlet .5" compression
	Water Flow Rate Required
	Tower Water 3.0 gallons (11.4 liters) per minute
	City Water 1.0 gallons (3.8 liters) per minute
	Drain Required?
	Tower Water No (return line is required)
	City Water Yes
	Installation requires a qualified technician and should include proper adjustment of the regulating valve, which controls the discharge pressure.
	Condenser options for discontinued freezer models are also available. Contact your sales representative for details.
Shelving for Uprights	
	Stainless Steel Shelf Kits for 8600 and 900 Series, include mounting hardware
13994053	For 13.0 cu.ft. uprights
13994054	For 17.3 cu.ft. uprights
13994055	For 23.0 cu.ft. uprights
13994056	For 28.0 cu.ft. uprights
	Behind-the-Mullion Shelf for 8600 and 900 Series
13994025	For 13.0 cu.ft. double door uprights
13994026	For 17.3 cu.ft. double door uprights
13994027	For 23.0 cu.ft. double door uprights

Cat. No.	Description
Air Filter Replacement Kits	
	Air Filter Replacement Kits, value pack of five filters
13994033	For 8600, 900, and 700 Series uprights
13994042	For 3.0 cu.ft. chests
13994043	For 12.7, 17.0, and 20.0 cu.ft. chests
	Air filters for discontinued freezer models are also available. Contact your sales representative for details.
Sample Probe Kits for 8600 Series Uprights	
	Probe kits are useful to measure sample temperature or top chamber temperature, assuring you of the sample temperature or uniformity between the top and bottom of the freezer.
13994034	Kit, customer installed* (includes probe clip and probe)
13994035	Kit, factory installed (includes probe clip and probe)
Miscellaneous Accessories	
13994020	Access Port, 1.3" inside diameter, factory installed
13994041	Unique key lock, factory installed
430266	120V/20A Twist lock plug, NEMA L5-20P
430267	230V/15A Twist lock plug, NEMA L6-15P

* Must be installed by qualified professional



Achieve secure, efficient tracking of laboratory samples with Thermo Scientific 2D Barcoded storage tubes.

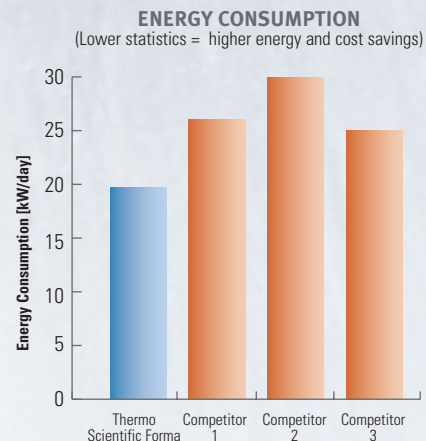
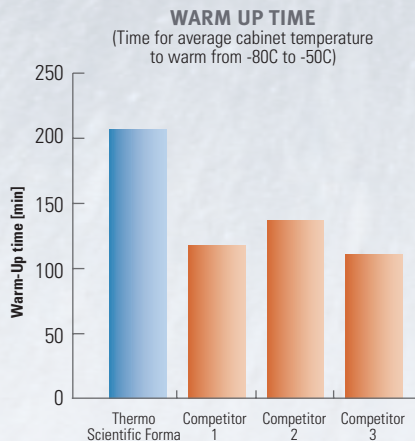
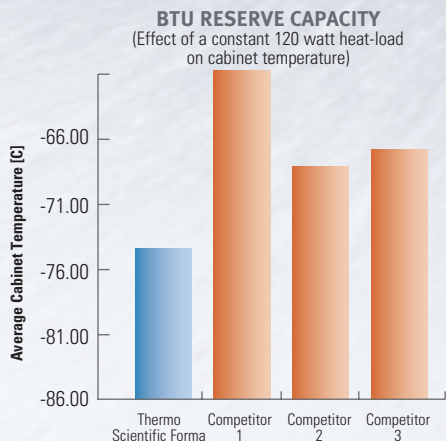
Unlike traditional storage tubes, a permanently bonded 2D barcode is laser-etched on the base of every tube for individual identification and traceability. Available in volumes from 0.3 ml to 12.0 ml, stringent quality control ensures flawless barcodes and all tubes are leak-tested to ensure the integrity of every sample. The microplate footprint tube racks, with a locking lid to secure samples, are stackable to provide space efficiencies for storage.

Complementary Thermo Scientific 2D barcode readers allow instant decoding of each barcode and sample entry into virtually any file or database application, permanently linking the tube contents to the unique 2D code.

For more information, please contact your sales representative.

Designed with your samples in mind

The BTU Reserve Capacity test illustrates our Forma freezers' ability to accept a heat load (warm samples placed inside a freezer), yet maintain a very cold average cabinet temperature. This is accomplished through a robust refrigeration system and superior insulation. The Warm Up Time chart illustrates our superior insulation and door seals by showing the time it takes for an empty unit to warm from -80C to -50C in a simulated power outage. Finally, we accomplish this with optimized Energy Consumption during normal cycling at a -80C set point. The graphs below are based on a Thermo Scientific Forma 906 at 60Hz versus similar competitive units.



ADDITIONAL FEATURES

Our fully-tested refrigeration system improves temperature control for more consistent temperature cycling and increases reserve BTUH capacity, resulting in a more stable temperature for safer product storage.

Triple-point silicone gasket and latch/handle on uprights and flexible gasket on chests ensure a snug seal that:

- Minimizes ambient temperature and humidity migration to the interior, reducing maintenance because less frost builds up on the inner doors and chest sub-lid(s)
- Provides an energy-efficient thermal barrier to keep cold air in and room temperature air out, contributing to safe product storage and reducing wear and tear on the compressors because they don't have to operate as often

Uprights include acoustical mufflers designed into the base and sound-absorbing foam that work together to reduce noise level, ensuring quiet operation for more comfortable working conditions.

Contact your sales representative for warranty information.

Automatic Voltage Compensator for Longer Compressor Life

- Ensures that a more consistent electrical current flows to the freezer, reducing wear and tear on the compressor(s)
- Increases compressor life by maintaining reliability over a wide voltage range
- Prevents incorrect voltage from being applied to the freezer's fan(s) and compressors (e.g., ensures use of the correct electrical outlet) All freezers include a battery back-up system that provides power to the monitoring and alarm system in the event of a power failure.

Freezers include remote alarm contacts for connection to an in-house security system, optional remote alarm system or Sensaphone® Telephone Dialing System.

Heated vacuum relief port on uprights equalizes the pressure quickly, allowing easy re-entry after closing.

Key lock prevents unwanted access to your valuable samples.

For added security, an audible/visual alarm occurs if the door or lid is not closed properly.



For customer service, call 1-800-766-7000.
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