



Thermo Scientific HERAfreeze® Freezers

Solutions for safe sample storage



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Safeguarding your precious samples

Researchers worldwide protect more than two billion samples inside Thermo Scientific cold storage equipment. With proven solutions including +4°C refrigerators to -196°C cryogenic freezers and Nalgene® and Nunc™ consumables, you're free to concentrate on your work without worrying about your valuable samples.

Thermo Scientific HERAfreeze freezers are engineered to provide reliable, user-friendly operation and the safe, protected ultra-low temperature environment your precious samples require.

-86°C Super Insulation Freezers

Our Super Insulation (SI) upright freezers set the standard for capacity and floor space efficiency in critical materials storage.

Manufactured to exacting quality standards for dependable, worry-free operation, our SI freezers store more samples than conventional upright models without occupying additional lab space.

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-86°C Upright Freezers

Energy-efficient upright freezers maximize storage capacity and minimize operating costs. Upright models are ideal for everyday storage, and maintain constant temperatures even when doors are opened frequently.

-86°C Chest Freezers

Maximize storage capacity and minimize operating costs. Chest freezers provide a safe, stable environment for long-term storage and sample archiving.

-80°C and -86°C Specialty Freezers

Designed for storage applications in biomedical, clinical, pharmaceutical and industrial research environments. Models provide reliable storage for a variety of sample types and allow easy access to inventory.

Accessory Systems

Our racks and accessories enable freezers to be configured for specific storage applications. Perfectly matched boxes, inserts and racks integrate to make inventory management more efficient and optimize the use of available freezer space.

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Built-in circular chart recorder.



Top biological storage freezer

HERAfreeze racks for upright freezers

Thermo Scientific HERAfreeze -86°C Super Insulation Freezers

More storage capacity for valuable samples and materials

Available in a variety of sizes and control configurations, our Super Insulation (SI) freezers store more inventory than conventional upright freezers without taking up additional lab floor space. Highly efficient, thin-wall super insulation significantly increases internal volume — so there's more space for sample storage when compared to conventional uprights with an equivalent footprint.

Super Insu



 Our 691 Itrs and 906 Itrs SI models use hot gas halo heat around the perimeter of the cabinet to minimize frost build-up

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- Composite wall design minimizes wall thickness to maximize interior space without impacting on R-value
- Adjustable shelves for a variety of inventory configurations
- Heavy-duty casters provide mobility and make installation easier
- Inner doors create independent storage compartments, so ambient thermal exposure is minimized when samples are accessed

ation Freezers

906 Itrs SI Freezer

Requires less floor space than comparable models

- High capacity freezer with a footprint of only 1 m²
- Accommodates an unprecedented 70,000 sample vials in 700 (50 mm) standard fiberboard boxes, or 52,500 vials in 525 (75 mm) boxes
- Seven racks per shelf and five shelf positions provide a total freezer volume of 35 inventory racks
- Ten inner doors

- Exterior alarm contact for connection to remote monitoring system
- Advanced cascade refrigeration system ensures unmatched reliability for critical storage applications
- Available with Top control system

◀ Keyed CryoLatch assembly prevents unauthorized access and facilitates effortless door openings and closings available on 906 ltrs and 691 ltrs models



Thermo Scientific -86°C HERAfreeze Super Insulation Freezers

691 Itrs SI Freezers

20% more inventory capacity than equivalent conventional uprights



- Footprint of only 0.85 m²
- Accommodates up to 48,000 sample vials in 480 (50 mm) standard fiberboard boxes, or 36,000 vials in 360 (75 mm) boxes
- Six racks per shelf and five shelf positions provide a total freezer volume of 30 inventory racks
- Five inner doors

- Exterior alarm contact for connection to remote monitoring system
- Dependable Alliance™ refrigeration system for safe, worry-free storage
- Available with Top and Basic control systems

311 Itrs SI Freezer

Ideal for labs with limited floor space

- Footprint of only 0.54 m²
- Accommodates up to 18,000 sample vials in 180 (50 mm) standard fiberboard boxes, or 13,500 vials in 135 (75 mm) boxes
- Three racks per shelf and five shelf positions provide a total freezer volume of 15 inventory racks
- Five inner doors
- Convenient chrome latch assures a positive door seal and accommodates a padlock for greater sample security
- Dependable Alliance refrigeration system for safe, worry-free storage
- Available with Basic control system

- Key-operated on/off switch engages preset overtemperature alarm
- Automatic voltage boost compensates for low voltage and brown-out conditions
- Exterior alarm contact provides connection to remote monitoring system

-86°C Top Super Insulation Freezers

Temperature Rang	Temperature Range: -50°C to -86°C											
Model (Catalog No.)	Style	Volume Liters (cu.ft.)	Interior Dimensions H x W x D, mm (inches)	Exterior Dimensions H x W x D*, mm (inches)	Electrical	Amps/Breaker	Ship Weight kg (lbs)					
HFU2585 SI TOP	Upright	691 (24.4)	1283 x 876 x 616 (50.5 x 34.5 x 24.0)	1972 x 1118 x 944 (77.6 x 44.0 x 37.2)	230 V/50 Hz 1ø	11.2/15	359 (790)					
HFU3285 SI TOP	Upright	906 (32.0)	1283 x 991 x 889 (50.5 x 39.3 x 26.8)	1969 x 1130 x 889 (77.5 x 44.5 x 35.0)	230 V/50 Hz 1ø	12.0/15	480 (1055)					

-86°C Basic Super Insulation Freezers

Temperature Ran	ge: -50°C to -86°	С					
Model	Style	Volume	Interior Dimensions	Exterior Dimensions	Electrical	Amps/Breaker	Ship Weight
(Catalog No.)		Liters (cu.ft.)	H x W x D, mm (inches)	H x W x D*, mm (inches)			kg (lbs)
HFU1185 SI BASIC	Upright	311 (11.0)	1283 x 470 x 508	1919 x 673 x 940	230 V/50 Hz 1ø	7.5/15	275 (605)
			(50.5 x 18.5 x 20.0)	(77.5 x 33.6 x 41.9)			,w.sur
HFU2585 SI BASIC	Upright	691 (24.4)	1283 x 876 x 616	1972 x 1118 x 944	230 V/50 Hz 1ø	11.2/15	359 (790 ps
			(50.5 x 34.5 x 24.0)	(77.6 x 44.0 x 37.2)			

^{*}Plus compulsory wall distance.

Exterior dimensions include allowances for cabinet, hinges, door latches, handles and control panel protrusions

Two Levels of Control Sophistication – Top and Basic

Top Microprocessor Control*

For demanding storage applications

Our Top control features an intuitive microprocessor control system that offers comprehensive remote monitoring capabilities and incorporates an RS232 interface for data download to a PC.

Our Top control offers active and passive supervision of all functions for unsurpassed safety and security. Door-mounted controls and eyelevel displays at simplify operation and enable at-a-glance monitoring.

- Easy input of temperature and high/low alarm setpoints
- Set parameters for temperature back-up, alarm delay and lock on/off
- Continuous remote monitoring of compressor function, condenser temperature, door/lid open, and ambient temperature



High ambient alert warns if room temperature may impact on freezer performance

Low voltage alert

warns of insufficient incoming line voltage and automatically compensates for low source power

RS232 interface

for data download to PC

Performance deviation alert warns of current or recent automatically adjusted incidents that may affect performance

Low battery alarm

with auto-charge for battery back-up.

3-position key switch

for tamper-proof power, alarm and setpoint security



Basic Solid-State Control*

For reliable, routine storage

Our Basic control incorporate an easy-to-use solid-state control system with an RS232 option.

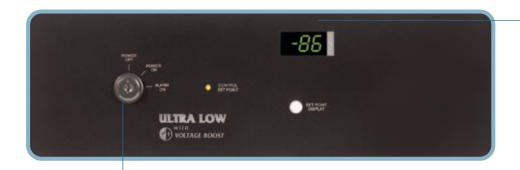
Our Basic control features a high visibility digital temperature display.

- Digital setpoint and display
- Pre-set audible overtemperature alarm
- Monitoring of compressor function and door/lid open

Basic

Bright LED display

shows setpoint and actual temperature at the push of a button



Integrated preset overtemperature alarm

provides an audible alert to warm conditions

Automatic voltage boost compensates for source power during peak demand periods

Key-operated on/off switch f supply security



Thermo Scientific HERAfreeze -86°C Upright and Chest Freezers

Secure, energy-efficient sample storage

Our upright and chest freezers are available in a wide range of sizes and two control configurations (Top and Basic) to meet a variety of short and long-term sample storage needs.

All models use the powerful Alliance refrigeration system, which provides rapid cooling, fast response to door openings and unmatched long-term performance under fluctuating voltage and environmental conditions.

- Capacities from 220 ltrs to 630 ltrs
- Energy-saving design reduces energy consumption by up to 60% compared to other models
- Easy to clean, corrosion-resistant interiors
- Upright models available with right or left-hinged doors
- Casters with locking brakes provide mobility and make installation easier



Polystyrene inner lids on chest models protect samples by minimizing heat transfer

Top and Basic Control

Top model freezers feature an intuitive microprocessor control system that offers comprehensive remote monitoring capabilities and incorporates an RS232 interface for data download to a PC.

- Easy input of temperature and high/low alarm setpoints
- Set parameters for temperature back-up, alarm delay and lock on/off
- Continuous remote monitoring of compressor function, condenser temperature, door/lid open and ambient temperature

Basic model freezers incorporate an easy-to-use solid-state control system with an RS232 option.

- Digital setpoint and display
- Pre-set audible overtemperature alarm
- Monitoring of compressor function and door/lid open

Chest Freezers



-86°C Top Upright and Chest Freezers

Temperature Ra	inge: -50°C to -86	S°C					
Model (Catalog No.)	Internal Doors	Volume Liters (cu.ft.)	Interior Dimensions H x W x D, mm (inches)	Exterior Dimensions H x W x D, mm (inches)	Electrical*	Amps/Breaker	Ship Weight kg (lbs)
HFU 486 Top	5	400 (14)	1300 x 610 x 505	1970 x 920 x 895	230 V/50 Hz 1ø	16/20	273 (600)
51019572)			(51.2 x 24 x 19.9)	(77.6 x 36.2 x 35.3)			
HFU 586 Top	5	510 (18)	1300 x 610 x 645	1970 x 920 x 1035	230 V/50 Hz 1ø	16/20	313 (689)
51019573)			(51.2 x 24 x 25.4)	(77.6 x 36.2 x 40.8)			
HFU 686 Top	5	630 (22)	1300 x 755 x 645	1970 x 1065 x 1035	230 V/50 Hz 1ø	16/20	335 (737)
51019574)			(51.2 x 24.7 x 25.4)	(77.6 x 42 x 40.8)			
HFC 286 Top		220 (7.8)	705 x 630 x 500	1070 x 1350 x 910	230 V/50 Hz 1ø	16/20	202 (444)
51019553)	_		(21.8 x 24.8 x 19.7)	(42.2 x 53.2 x 35.9)			
HFC 486 Top		375 (13.3)	705 x 1070 x 500	1070 x 1790 x 910	230 V/50 Hz 1ø	16/20	250 (550)
51019565)	_		(27.8 x 42.2 x 19.7)	(42.2 x 70.5 x 35.9)			
HFC 586 Top		525 (18.6)	705 x 1490 x 500	1070 x 2210 x 910	230 V/50 Hz 1ø	16/20	286 (629)
51019566)	_		(27.8 x 58.7 x 19.7)	(42.2 x 87 x 35.9)			

^{*}Other power supplies available on request.

-86°C Basic Upright and Chest Freezers

Model (Catalog No.)	Internal Doors	Volume Liters (cu.ft.)	Interior Dimensions H x W x D, mm (inches)	Exterior Dimensions H x W x D, mm (inches)	Electrical*	Amps/Breaker	Ship Weight kg (lbs)
HFU 486 Basic	5	400 (14)	1300 x 610 x 505	1970 x 920 x 895	230 V/50 Hz 1ø	16/20	270 (594)
(51019575)			(51.2 x 24 x 19.9)	(77.6 x 36.2 x 35.3)			
HFU 586 Basic	5	510 (18)	1300 x 610 x 645	1970 x 920 x 1035	230 V/50 Hz 1ø	16/20	310 (682)
(51019576)			(51.2 x 24 x 25.4)	(77.6 x 36.2 x 40.8)			
HFU 686 Basic	5	620 (22)	1300 x 755 x 645	1970 x 1065 x 1035	230 V/50 Hz 1ø	16/20	332 (730)
(51019577)			(51.2 x 29.7 x 25.4)	(77.6 x 42 x 40.8)			
HFC 286 Basic		220 (7.8)	705 x 630 x 500	1070 x 1350 x 910	230 V/50 Hz 1ø	16/20	202 (444) _{subplyla} o
51019567)	_		(21.8 x 24.8 x 19.7)	(42.2 x 53.2 x 35.9)			upply
HFC 486 Basic		375 (13.3)	705 x 1070 x 500	1070 x 1790 x 910	230 V/50 Hz 1ø	16/20	250 (55Qkn1.5
51019568)	_		(27.8 x 42.2 x 19.7)	(42.2 x 70.5 x 35.9)			
HFC 586 Basic		525 (18.6)	705 x 1490 x 500	1070 x 2210 x 910	230 V/50 Hz 1ø	16/20	286 (629)
(51019569)	_		(27.8 x 58.7 x 19.7)	(42.2 x 87 x 35.9)			

^{*}Other power supplies available on request.

Thermo Scientific HERAfreeze Specialty Freezers

Biological Storage Freezers

Stable long-term preservation of critical materials



Our biological storage freezers offer lots of space for the long-term preservation of valuable samples under a safe, controlled, ultra-low temperature environment.

- Large 88 Itrs capacity with easy access to inventory
- Adjustable temperatures from -50°C to -86°C in 1°C increments
- Dependable Alliance refrigeration system for safe, worry-free storage

- Dual gasket system with fourpoint seal minimizes frost build-up
- High-impact, scratch-resistant, epoxy exterior finish
- Easy-open, counterbalanced lid with padlock provision for added security
- Exterior alarm contact for connection to remote monitoring system

Tabletop Storage



The 185 tabletop freezer is ideal for small personal storage needs or clinical trial applications.

- Full 28 ltrs capacity with the convenience of tabletop placement
- Adjustable temperatures from -50°C to -80°C in 1°C increments
- Air-cooled refrigeration system maintains set temperature even in warm ambient conditions
- Rugged steel cabinet with a highimpact epoxy finish for easy cleaning
- Counterbalanced lid with key lock to prevent unauthorized access
- Exterior alarm contact for connection to remote monitoring system

-86°C Biological Storage Freezers

Temperature Range:	Temperature Range: -50°C to -86°C										
Model	Volume	Interior Dimensions	Exterior Dimensions	Electrical	Amps/Breaker	Ship Weight					
(Catalog No.)	Liters (cu.ft.)	H x W x D, mm (inches)	H x W x D*, mm (inches)			kg (lbs)					
HFC 390 Top	88 (3)	431 x 483 x 431	1156 x 760 x 765	230 V/50 Hz 1ø	11.2/15	188 (415)					
(HFC390TOP-V)		(17 x 19 x 17)	(45.5 x 29.9 x 30.2)								
HFC 390 Basic	88 (3)	431 x 483 x 431	1156 x 760 x 765	230 V/50 Hz 1ø	11.2/15	188 (415)					
(HFC390BASIC-V)		(17 x 19 x 17)	(45.5 x 29.9 x 30.2)								

^{*}Plus compulsory wall distance.

Exterior dimensions include allowances for cabinet, hinges, door latches, handles, and control panel protrusions.

-80°C Tabletop Freezer

Temperature Range:	-50°C to -80°C					200
Model	Volume	Interior Dimensions	Exterior Dimensions	Electrical	Amps/Breaker	Ship Weight polylo
(Catalog No.)	Liters (cu.ft.)	H x W x D, mm (inches)	H x W x D*, mm (inches)			kg (lbs) "rus
HFC 185 Basic	28 (1)	245 x 387 x 305	508 x 781 x 640	230 V/50 Hz 1ø	8.0/15	147 (325 ks
(HFC185BASIC-V)		(9.6 x 15.2 x 12)	(20 x 30 x 25.2)			

^{*}Plus compulsory wall distance.

Exterior dimensions include allowances for cabinet, hinges, door latches, handles and control panel protrusions.

Thermo Scientific HERAfreeze Racks and Accessories

Maximize the value of your freezer

Now there's a way to get exceptionally efficient storage configurations that maximize your productivity while reducing operating costs.

Our racks provide a complete, customizable solution for all of your application needs – cryroboxes, microplates, bulk or kits – along with proven reliability and quality you can depend on year after year.



> Racks – Upright Freezers

	Vials – S	Vials – Side Access Racks									
	Cat No.	Description Size: H x D x W inches (mm)	Freezer Volume Liters (cu.ft.)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/Shelf	Total Racks/ Freezer				
	H6C4-3/SA	Adjustable Side Access Rack 9.4 x 16.1 x 5.4 (240 x 410 x 137)	379 (13.4)	12	9	4	20				
	H7C4-3/SA	Adjustable Side Access Rack 9.4 x 21.7 x 5.4 (240 x 550 x 137)	400 (14.1)	16	12	3	15				
			487 (17.2)	16	12	4	20				
			510 (18)	16	12	4	20				
0			572 (20.2)	16	12	4	20				
			630 (22.2)	16	12	5	25				
			691 (24.4)	16	12	5	25				

^{*}Boxes not included

	Vials –	Front Access Racks						
	Cat No.	Description Size: H x D x W inches (mm)	Freezer Volume Liters (cu.ft.)	Quantity of 2" Boxes	Quantity of 3" Boxes	Racks/Shelf	Total Racks/ Freezer	
	H7C4/00	Sliding Drawer Rack						
		9.4 x 16.5 x 5.5 (240 x 420 x 140)	400 (14.1)	12	-	3	15	
			487 (17.2)	12	-	4	20	
			510 (18)	12	-	4	20	
			572 (20.2)	12	-	4	20	
			630 (22.2)	12	-	5	25	
11			691 (24.4)	12	-	5	25	
	H6C4/00		Sliding Drawer Rac	k				
			9.4 x 21.9 x 5.5 (240	0 x 555 x 140)	379 (13.4)	16	- 4	20
	*Boxes not incl	luded						

	Micropla	ates — Side	Access Racks				
	Cat No.	Description	Size: H x D x W inches (mm)	Freezer Volume Liters (cu.ft.)	Capaci Shallow well	ty Deep well	Racks/Shelf
	H7C4/MP/SA	Microplates	9.4 x 21.7 x 5.4 (240 x 550 x 137)	400 (14.1)	16	48	3
40000				487 (17.2)	16	48	4
				510 (18)	16	48	4 Jabat
Name and Add Str.				572 (20.2)	16	48	4 1117148
111111				630 (22.2)	16	48	5 munus
				691 (24.4)	16	48	5
THE STATE OF	H6C4/MP/SA	Microplates	9.4 x 14.6 x 5.4 (240 x 370 x 137)	379 (13.4)	24	72	4

Thermo Scientific HERAfreeze Cryo Boxes



> Racks – Upright Freezers

	Micropl	ates – Front	Access Racks				
	Cat No.	Description	Size: H x D x W inches (mm)	Freezer Volume Liters (cu.ft.)	Capaci Shallow well	ty Deep well	Racks/Shelf
	H6C4/MP	Microplates	9.4 x 16.5 x 5.5 (240 x 420 x 140)	379 (13.4)	16	48	4
	H7C4/MP	Microplates	9.4 x 21.9 x 5.5 (240 x 555 x 140)	400 (14.1)	24	72	3
				487 (17.2)	24	72	4
-				510 (18)	24	72	4
-				572 (20.2)	24	72	4
			630 (22.2)	24	72	5	
			691 (24.4)	24	72	5	
	*Microplates n	ot included					



> Racks - Chest Freezers

Vials						
Cat No.	Description	Size: H x D x W in. (mm)	Freezer Volume Liters (cu.ft.)	Quantity of 2" Boxes	Quantity of 3" boxes	Racks/freezer
K7A12		23.0 x 5.5 x 5.5 (585 x 139 x 140)	220 (7.8)	12 x 2"	_	12
			375 (13.3)	12 x 2"	_	21
			525 (18.6)	12 x 2"	_	30

Microplates											
Cat No.	Description	Size: H x D x W in. (mm)	Freezer Volume Liters (cu.ft.)	Shallow well (mm)	Deep well (mm)	Racks/freezer					
K7/10SD	Microplate	23.4 x 5.2 x 3.4									
		(595 x 131 x 87)	220 (7.8)	30	10	20					
			375 (13.3)	30	10	40					
			525 (18.6)	30	10	55					

*Microplates not included

Thermo Scientific HERAfreeze Cryo Boxes



> Cryo Boxes – Upright/Chest Freezers

Fiberboard (BFB) Boxes — Light Flexible and Economical		
Dimensions	131mm x 131mm (lid 137mm x 137mm)	
Available heights (mm)	25, 35, 50, 75, 100, 130	
Available dividers	3x3, 5x5, 7x7, 8x8, 9x9, 10x10, 13x13, 16x16	
Available colors	white, red, blue, green, yellow	

carbonate (BPC	C) Boxes — Robust, Flexible and Temperat	ure Resistant	
Nu Ve	umerical labeling on lids and boxes prevents sample mix-ups entilation holes make lid openings and closures easier		
BI	PC-53-100 Color Boxes	BPC-53-80 Color Boxes	
ions (H x W X D) 53	3mm x 133mm x 133mm	53mm x 133mm x 133mm	
Places 10	00	81	
for tubes Int	tegrated (max. 12.3mm diameter x 50mm H)	Integrated (max. 13mm diameter x 50mm H)	
le colors red	d, blue, green, yellow	red, blue, green, yellow	
_		Supplied with an adapter to improve cryotube had	ndling
В	PC-80-81 Color Boxes	BPC-96-81 Color Boxes	
ions (H x W X D) 80	0mm x 133mm x 133mm	96mm x 133mm x 133mm	
Places 81		81	
for tubes Int	tegrated (max. 13mm diameter x 70mm H)	Integrated (max. 13mm diameter x 93mm H)	
le colors red	d, blue, green, yellow	red, blue, green, yellow	
	tion Tr N Ve Ar B ions (H x W X D) 55 Places 10 for tubes In le colors re B ions (H x W X D) 80 Places 81 for tubes In	Transparent lids for easier sample monitoring Numerical labeling on lids and boxes prevents sample mix-ups Ventilation holes make lid openings and closures easier Available in a variety of colors for better sample management BPC-53-100 Color Boxes ions (H x W X D) 53mm x 133mm x 133mm Places 100 for tubes Integrated (max. 12.3mm diameter x 50mm H) le colors red, blue, green, yellow BPC-80-81 Color Boxes ions (H x W X D) 80mm x 133mm x 133mm Places 81 for tubes Integrated (max. 13mm diameter x 70mm H)	Numerical labeling on lids and boxes prevents sample mix-ups Ventilation holes make lid openings and closures easier Available in a variety of colors for better sample management BPC-53-80 Color Boxes BPC-53-80 Color Boxes ions (H x W X D) 53mm x 133mm x 133mm 53mm x 133mm x 133mm x 133mm Places 100 81 Integrated (max. 12.3mm diameter x 50mm H) Integrated (max. 13mm diameter x 50mm H) le colors red, blue, green, yellow red, blue, green, yellow - Supplied with an adapter to improve cryotube har BPC-80-81 Color Boxes BPC-96-81 Color Boxes ions (H x W X D) 80mm x 133mm x 133mm Places 81 81 Integrated (max. 13mm diameter x 70mm H) Integrated (max. 13mm diameter x 93mm H)

Polypropylene (E	BPP) Boxes — Robust and Autoclavable	
Description	Transparent lids for easier sample monitoring Numerical labeling on lids and boxes prevents sample mix-ups Available in a variety of colors for better sample management	
	BPP-46-81 Color Boxes	BPP-45-64 Color Boxes (Ideal for microcentrifuge tubes)
Dimensions (H x W X D)	46mm x 133mm x 133mm	45mm x 134mm x 134mm
Sample Places	81	64
Divider for tubes	Integrated (max. 12.8mm diameter x 43mm H)	Integrated (max. 6mm or 12.3mm diameter x 42mm H)
Available colors	red, blue, green, yellow, pink	red, blue, green, yellow, pink



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 controlled rate freezing containers.

For further information regarding these products – visit www.nalgene.com or www.nuncbrand.com

Thermo Scientific HERAfreeze Freezer Options



> Options – Super Insulation Freezers

	311 Litres	691 Litres	906 Litres
	Cat. No.	Cat. No.	Cat. No.
Safety Backup Sytem			
CO ₂ back-up system (free-standing, customer installed)	AVL7218	AVL6593	AVL7214
LN ₂ back-up system (free-standing, customer installed)	AVL7219	AVL6214	AVL7215
CO ₂ back-up system (built-in, factory installed)	-	AVL6594	AVL7216
LN ₂ back-up system (built-in, factory installed)	-	AVL6595	AVL7217
Temperature Recorders			
Temperature recorder (free-standing, customer installed)	AVL6383-6	AVL6383-6	AVL6383-6
Temperature recorder (built-in, factory installed)	AVL6283-6	AVL6283-6	AVL6283-6
Chart paper (temperature range +50°C to -115°C)	AVL6185	AVL6185	AVL6185
onare paper (comperators range res s to 110 s)			
onarc paper (tomporatare range 100 o to 110 o)			
 Alarm Systems			



> Options — Top and Basic Chest and Upright Freezers

		HFU Top Freezers	HFU Basic Freezers	HFC Top Freezers	HFC Basic Freezers
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
	Safety Backup Sytem				
	CO ₂ back-up system (-30°C to -70°C,				
	adjustable in 1°C increments)	AVL6594	_	AVL6594	
	Temperature Recorders and Sensors			7.9%	
	Temperature recorder	AVL6183-6	AVL6183-6	AVL6183-6	AVL6183-6
	Chart paper	AVL6185	AVL6185	AVL6185	AVL6185
	Pt 100 sensor (allows connection to an external	AVL4706	AVL4706	AVL4706	AVL4706
	temperature monitoring system)				

Water Cooling Option

Chest and Upright freezers are available with a water-cooled condenser in place of the standard air cooling system. The condenser minimizes heat dissipation into the work environment, making a water-cooled Thermo Scientific

HERAfreeze unit the perfect choice for labs that contain several items of heat-generating equipment. Water cooling also offers the possibility of energy recovery.



> Options – Biological Storage/Tabletop Freezers

	HFC 390	HFC 185	
	Freezers Cat. No.	Freezers Cat. No.	
Safety Backup Sytem			
CO ₂ back-up system (free-standing, customer installed)	AVL6593	-	
LN ₂ back-up system (free-standing, customer installed)	AVL6214	-	
Temperature Recorders			
Temperature recorder (free-standing, customer installed)	AVL6383-6	AVL6383-6	
Temperature recorder (built-in, factory installed)	AVL6283-6	AVL6283-6	
Chart paper (temperature range +50°C to -115°C)	AVL6185	AVL6185	
Alarm Systems			
Alarm delay module	AVL6903	AVL6903	



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