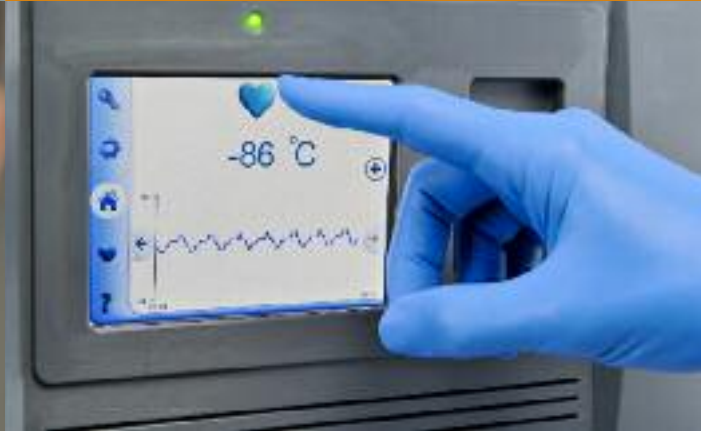


**NEW! Thermo Scientific**  
HERAfreeze Ultra-Low Temperature  
Freezers



your samples  
**our obsession**

**Thermo**  
SCIENTIFIC

# your samples

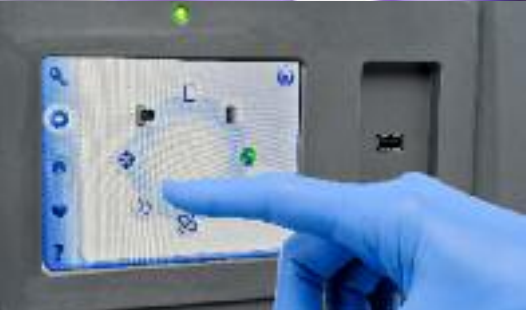
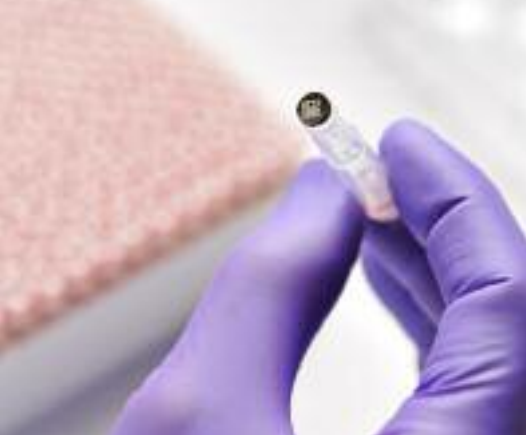
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To the rest of the world these are samples. To us they are a scientist's life's work. A lab's mission. A company's breakthrough. We are obsessed with sample integrity. Every one of our cold storage solutions is optimized for the best protection of critical samples. Our HERAfreeze® ultra-low temperature freezers offer a complete range of upright and chest configurations designed for maximum sample protection.

# our obsession

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## Introducing the new Thermo Scientific HERAFreeze HFU T Series

**Your samples need to stay cold. Period.** That's why our HFU T Series freezers offer outstanding door opening rates and consistent temperature uniformity. To ensure the safety of your samples, our new freezers endured rigorous testing – the equivalent of more than 26 years of run time before making their way to the market.

**Your samples are precious and so is your lab space.** With our HFU T Series freezers, it really is possible to fit more samples into less physical space. With five convenient sizes to choose from, we've got a freezer that will fit just right.

**Sample protection should be easy.** Our HFU T Series freezers feature an easy-to-use, touch screen panel with an innovative health monitor that lets you see what's going on inside without opening the door. On-board data logging provides you with a downloadable record.

**Protect your samples and the environment too.** From water-blown foam insulation and an environmentally-friendly mix of refrigerants, to an energy-saving mode option, our HFU T Series protects more than just your samples.

### -86°C and -40°C upright and chest freezers

Our **HERAFreeze HFU B -86°C and -40°C upright freezers** feature an intuitive microprocessor control for uncompromised sample protection.

Our **HERAFreeze HFC -86°C and -40°C chest freezers** offer all the features and benefits of our HFU B uprights.



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**what to look for**  
**in an ultra-low temperature freezer**

## Select the optimal capacity and design

		Thermo Scientific HERAfreeze HFU T Series -86°C					Thermo Scientific HERAfreeze HFU B Series -86°C			
		HFU300T	HFU400T	HFU500T	HFU600T	HFU700T	HFU240B	HFU320B	HFU400B	HFU600B
<b>Capacity</b>	cu. ft.	14.9	19.4	24.1	28.8	33.5	13	17.3	23	28
	(liters)	(421)	(548)	(682)	(815)	(949)	(368)	(490)	(651)	(793)
<b>2" Box Capacity</b>	boxes	300	400	500	600	700	240	320	400	600
<b>Vial Capacity</b>	2mL vials	30,000	40,000	50,000	60,000	70,000	24,000	32,000	40,000	60,000
<b>Footprint</b>	sq. ft.	7.05	8.46	9.92	11.38	12.85	7.61	9.00	11.02	12.64
	(sq. meters)	(0.65)	(0.79)	(0.92)	(1.06)	(1.19)	(0.71)	(0.84)	(1.02)	(1.17)
<b>Energy*</b>	KW/day	17	19	19	20	22	17	18	19.3	21.0
<b>Vial to Footprint</b>	vials/ft <sup>2</sup>	4,255	4,728	5,040	5,272	5,447	3,154	3,600	3,360	4,747
	(vials/m <sup>2</sup> )	(46,154)	(50,633)	(54,348)	(56,604)	(58,824)	(33,803)	(38,095)	(39,216)	(51,282)
<b>Vials to Energy</b>	watts/100 2mL vials (box)	2.36	1.93	1.54	1.39	1.31	2.95	2.47	1.98	1.46

\* Based on internal performance data. Data on file. May, 2011.

## Choose advanced technologies

		Thermo Scientific HERAfreeze HFU T Series -86°C					Thermo Scientific HERAfreeze HFU B Series -86°C			
		HFU300T	HFU400T	HFU500T	HFU600T	HFU700T	HFU240B	HFU320B	HFU400B	HFU600B
<b>Performance</b>										
	Display	LCD Touch-Screen					LED Push Button			
	On-Board Datalogging	Standard					Not Available			
	Setpoint Security	Standard					Not Available			
	Operating Modes	Two Modes – High-Performance or Energy-Savings					One Mode – Standard Operation			
<b>Security</b>										
	Key Lock	Standard					Standard With Unique Key Option			
	Padlock Compatible	Standard					Standard			
	Key Card Access	Optional					Not Available			
	Setpoint Security	Standard					Not Available			
<b>Data Management</b>										
	Monitoring Outputs	Standard: RS-485, 4-20mA, Dry Contacts					Standard: Dry Contacts; Optional PT100 Probe			
	Data Outputs	Log File Through USB					Not Available			

## Other ultra-low temperature freezers

### -10°C to -40°C Upright and Chest Freezers

Choose our HERAfreeze -40°C HFU B upright freezers or -40°C HFC chest freezers for applications requiring storage between -10°C and -40°C. Select from 13, 17 or 23 cu. ft. (368, 490, 651L) uprights or 3, 12, 17 or 20 cu. ft. (85, 360, 481, 566L) chests. Models are available with optional chart recorders and backup systems.

### -86°C Chest Freezers

Do you require a -86°C chest freezer configuration? Our HERAfreeze HFC chest freezers are available in a choice of 3, 12, 17 or 20 cu. ft. (85, 360, 481, 566L) to meet a wide variety of storage needs. Models are available with optional chart recorders and backup systems.

# daily dependability

**Thermo Scientific HERAfreeze HFU B Series upright freezers** are designed for daily sample protection and dependability. Freezers are available in both a  $-50^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$  and a  $-10^{\circ}\text{C}$  to  $-40^{\circ}\text{C}$  configuration. All models feature state-of-the-art refrigeration, rugged construction and easy-to-use microprocessor control.



**HERAfreeze HFU B  $-40^{\circ}\text{C}$  Freezer**

## Rugged construction for everyday use

- Heavy gauge, cold-rolled steel cabinets with a powder coat paint finish for a uniform exterior that resists chipping and rust.
- 5" (127mm) foamed-in-place, polyurethane insulation reduces power consumption, maintains temperature setpoint and combined with triple-point door gasket, provides longer holding time in the event of a door opening.
- State-of-the-art, refrigeration system improves temperature control and increases reserve capacity, resulting in a more stable temperature sample.
- Two 1" (25mm) access ports allow for the use of inexpensive probes or instrumentation.
- Stainless steel interior on  $-86^{\circ}\text{C}$  freezers or glaveneel interior on the  $-40^{\circ}\text{C}$  freezers.
- Vacuum relief port permits easy access after door openings.



## Secure inner doors

Five inner doors reduce cold air loss and improve temperature recovery after door closings.

### Microprocessor control

Centralized information center, including microprocessor control and monitoring system, ensures that all controls and displays are easy to reach and read. Eye level on our -86°C freezers or knee level on the -40°C freezers.

### Power Management System

With low voltage surge protection and buck/boost.

### Optional CO<sub>2</sub> or LN<sub>2</sub> back-up

Optional choice of CO<sub>2</sub> or LN<sub>2</sub> safety back-up systems for additional sample protection in the event of a power or mechanical failure.

### Optional chart recorder

Optional built-in chart recorder can be installed at eye level on our -86°C freezers or knee level on the -40°C freezers.

### Single-hand operation

Easy-to-use, padlock-compatible, ergonomic door handle with integrated key lock.

### Easy-to-remove, washable filter

Provides protection from dust on the condenser, causing reduced refrigeration performance and increased risk to samples.

### Simplified installation

with our new easy-roll 2" (5cm) locking casters.

VARIETY  
HFU B SERIES

# Thermo Scientific HERAfreeze HFU B Series

## Thermo Scientific HERAfreeze HFU B Series -86°C Upright Freezers (-50°C to -86°C)

Model No.	Capacity cu. ft. (liters)	2 in. Box Qty.	Electrical	Amps / Breaker (Plug)	Maximum Shelf Weight lbs. (kg)	Interior Dimensions H x W x D in. (cm)	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
HFU240BA HFU240BD HFU240BV	13.0 (368)	240	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 6-15) 12/16 (European)	125 (57)	51.5 x 23.0 x 19.3 (130.8 x 58.4 x 49.0)	77.9 x 33.3 x 32.9 (197.9 x 84.6 x 83.6)	711 (323)
HFU320BA HFU320BD HFU320BV	17.3 (489)	320	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 6-15) 12/16 (European)	125 (57)	51.5 x 23.0 x 25.3 (130.8 x 58.4 x 64.3)	77.9 x 33.3 x 38.9 (197.9 x 84.6 x 94.0)	830 (376)
HFU400BA HFU400BD HFU400BV	23.0 (651)	400	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 6-15) 12/16 (European)	125 (57)	51.5 x 30.6 x 25.3 (130.8 x 77.7 x 64.3)	77.9 x 40.8 x 38.9 (197.9 x 103.6 x 98.8)	879 (399)
HFU600BD HFU600BV	28.0 (793)	600	208-230V / 60Hz 230V / 50Hz	12/15 (NEMA 6-15) 12/16 (European)	125 (57)	51.5 x 36.6 x 27.0 (130.8 x 93.0 x 68.6)	77.9 x 46.8 x 38.9 (197.9 x 118.9 x 98.8)	1090 (494)

## Thermo Scientific HERAfreeze HFU B Series -40°C Upright Freezers (-10°C to -40°C)

Model No.	Capacity cu. ft. (liters)	2 in. Box Qty.	Electrical	Amps / Breaker (Plug)	Maximum Shelf Weight lbs. (kg)	Interior Dimensions H x W x D in. (cm)	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
HFU40240BA HFU40240BD HFU40240BV	13.0 (368)	240	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 5-16) 12/16 (European)	125 (57)	51.5 x 23.0 x 19.3 (130.8 x 58.4 x 49.0)	77.9 x 33.3 x 32.9 (197.9 x 84.6 x 83.6)	711 (323)
HFU40320BA HFU40320BD HFU40320BV	17.3 (489)	320	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 5-16) 12/16 (European)	125 (57)	51.5 x 23.0 x 25.3 (130.8 x 58.4 x 64.3)	77.9 x 33.3 x 38.9 (197.9 x 84.6 x 98.8)	830 (376)
HFU40400BA HFU40400BD HFU40400BV	23.0 (651)	400	115V / 60Hz 208-230V / 60Hz 230V / 50Hz	16/20 (NEMA 5-20) 12/15 (NEMA 5-16) 12/16 (European)	125 (57)	51.5 x 30.6 x 25.3 (130.8 x 77.7 x 64.3)	77.9 x 40.8 x 38.9 (197.9 x 103.6 x 98.8)	940 (426)

## Monitoring and Remote Options

Model No.	Electrical	Description
400011	120V / 60Hz	<b>Remote Alarm with Audible Signal</b> Extend the freezer's on-board alarm systems to remote locations in the facility.
400040 400041	120V / 60Hz 230V / 50Hz	<b>Remote Alarm with Audible and Visual Signal</b> Extend the freezer's on-board alarm systems to remote locations in the facility. Comes with audible alarm silence switch and alarm ringback feature.
400047 400182	120V / 60Hz 220V / 50Hz	<b>Sensaphone® Telephone Dialing System</b> Monitors up to four channels and dials up to four telephone numbers. A dedicated telephone line is required. Not approved for sales requiring CE.
400134 400183	120V / 60Hz 220V / 50Hz	<b>Sensaphone Telephone Dialing System</b> Monitors up to eight channels and dials up to eight telephone numbers. A dedicated telephone line is required. Not approved for sales requiring CE.
400048 400049	120V / 60Hz 220V / 50Hz	<b>Temperature / Power Monitor</b> External digital and audible/visual alarm monitors temperature and power supply of the freezer. Includes temperature probes.



Remote Alarm with Audible Signal



Remote Alarm with Audible/Visual Signal



Sensaphone Telephone Dialing System



Temperature / Power Monitor



## Options (Field-installed must be installed by qualified professional)

Model No.	Installation	Description
1950447	Factory	<b>LN<sub>2</sub> Back-Up System</b> Maintains temperature down to -80°C with liquid nitrogen
1950448	Field	
1950445	Factory	<b>CO<sub>2</sub> Back-Up System</b> Maintains temperature down to -70°C with CO <sub>2</sub>
1950446	Field	
201241	Factory	<b>Ink Chart Recorder</b> 6" (15.2cm), seven day recorder to -150°C. Includes one red felt tip pen and box of cryo paper (quantity: 50)
201240	Field	
201249	Factory	<b>Inkless Chart Recorder</b> 6" (15.2cm), seven day inkless recorder to -150°C. Includes one red felt tip pen and box of cryo paper (quantity: 50)
201248	Field	
195915	Factory	<b>Unique Key Lock</b>
290199	Factory	<b>PT100 Sensor</b> Optional sensor for connection to building automation systems

## Accessories

Model No.	Description
195890	<b>Replacement Air Filter</b> (quantity: 5)
400159	<b>Replacement Back-Up Battery</b>
991505	<b>High-Pressure Liquid CO<sub>2</sub> Hose</b> 6' long, kink-resistant, stainless steel lined, double-braided sheath. 316 stainless steel NPT F fitting. Maximum working pressure 25,000 psig.
950316	<b>Wall Clamp</b> – CO <sub>2</sub> cylinder holder for securing tank to the wall for OSHA guidelines
4000401	<b>LN<sub>2</sub> Transfer Hose</b> – flexible 6' metal hose: 0.5" diameter, 45° flare with swivel end
17020	<b>Ink Chart Paper</b> (quantity: 50)
180000	<b>Inkless Chart Paper</b> (quantity: 50)
245231	<b>Red Felt Tip Pen</b>
245232	<b>Blue Felt Tip Pen</b>
4425	<b>Cryo Gloves</b> (medium)
4426	<b>Cryo Gloves</b> (large)



Back-Up Systems



Chart Recorder



Unique Key Lock



Chart Pens

## Water-Cooled Condenser Option

Model No.	For Use With
195964	HFU240B
195965	HFU320B, HFU400B, HFU600B

The water-cooled condenser option is available on our -86°C upright and chest freezers.

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.

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.

**The following specifications apply to tower and city water sources:\***

### Water Pressure and Temperature

Maximum Pressure . . . . . 150 psig  
Maximum Temperature . . . . . 29.4°C

### Connections

Inlet . . . . . 0.5" compression  
Outlet . . . . . 0.5" compression

### Water Flow Rate Required (per minute)

Tower Water . . . . . 0.30 gal. (11.4L)  
City Water . . . . . 1.0 gal. (3.8L)

### Drain Required?

Tower Water . . . . . No (return line)  
City Water . . . . . Yes

Installation requires a qualified technician and should include proper adjustment of the regulating valve which controls the discharge pressure.

\*Actual requirements may vary due to specific water pressure conditions.

## Alternate Cord and Plug Options









Model No.	Plug Description
430266	115V/20A Twist Lock Plug (NEMA L5-20P)
430267	230V/15A Twist Lock Plug (NEMA L6-15P)

# Thermo Scientific HERAfreeze HFU B Series

## Thermo Scientific HERAfreeze HFU B Series Upright Freezer Racks

2" Box Racks	Model No. (Description)	Dimensions H x W x D in. (cm)	Freezer Vol. cu. ft. (liters)	Boxes/ Rack	Racks/ Shelf	Racks/ Freezer	Boxes/ Freezer
	398332 <b>(Sliding Drawer Rack for 2" Boxes)</b>	9.4 x 5.5 x 16.6 (23.9 x 14 x 42.2)	13 (368)	12	4	20	240
	398331 <b>(Sliding Drawer Rack for 2" Boxes)</b>	9.4 x 5.5 x 22 (23.9 x 14 x 55.9)	17.3 (490)	16	4	16	320
			23 (651)	16	5	25	400
	398329 <b>(Sliding Drawer Rack for 2" Boxes)</b>	9.4 x 5.5 x 26.3 (23.9 x 14 x 66.8)	28 (793)	20	6	30	600
	398324 <b>(Adjustable Side Access Rack for 2" Boxes)</b>	9.4 x 5.5 x 16.5 (23.9 x 14 x 41.9)	13 (368)	12	4	20	240
	398326 <b>(Adjustable Side Access Rack for 2" Boxes)</b>	9.4 x 5.5 x 24.6 (23.9 x 14 x 62.5)	17.3 (490)	16	4	20	320
			23 (651.3)	16	5	25	400
3" Box Racks							
	920099 <b>(Sliding Drawer Rack for 3" Boxes)</b>	9.5 x 5.5 x 16.6 (24 x 14 x 42.2)	13 (368)	9	4	20	180
	398330 <b>(Sliding Drawer Rack for 3" Boxes)</b>	9.5 x 5.5 x 22 (24 x 14 x 55.9)	17.3 (490)	12	4	20	240
			23 (651)	12	5	25	300
	398328 <b>(Sliding Drawer Rack for 3" Boxes)</b>	9.5 x 5.5 x 26.3 (24 x 14 x 66.8)	28 (793)	15	6	30	450
	398325 <b>(Side Access Rack for 3" Boxes)</b>	9.4 x 5.5 x 16.5 (23.9 x 14 x 41.9)	13 (368)	9	4	20	180
	398327 <b>(Side Access Rack for 3" Boxes)</b>	9.4 x 5.5 x 24.6 (23.9 x 14 x 56.1)	17.3 (489.9)	12	4	20	240
			23 (651.3)	12	5	25	300

## Thermo Scientific HERAfreeze HFU B Series Upright Freezer Racks

Microplates	Model No. (Description)	Dimensions H x W x D in. (cm)	Freezer Vol. cu. ft. (liters)	Plates	Racks/ Shelf	Racks/ Freezer	Plates/ Freezer
	398334 (Side Access Microplate Rack)	9.4 x 5.3 x 14.7 (23.9 x 13.5 x 37.3)	13 (368)	44	4	20	880
	398333 (Side Access Microplate Rack)	9.4 x 5.3 x 22 (23.9 x 13.5 x 55.9)	17.3 (490)	66	4	20	1,320
			23 (651.3)	66	5	25	1,650
			28 (793)	66	6	30	1,980
	398335 (Side Access Deepwell Rack)	9.4 x 5.3 x 22 (23.9 x 13.5 x 55.9)	17.3 (490)	16	4	20	600
			23 (651.3)	16	5	25	750
			28 (793)	20	6	30	900
	1950637 (Sliding Drawer Rack for Microplates)	9.5 x 5.5 x 16.6 (24 x 14 x 42.2)	13 (368)	16	4	20	320
	1950638 (Sliding Drawer Rack for Microplates)	9.5 x 5.5 x 22 (24 x 14 x 55.9)	17.3 (490)	24	4	20	480
			23 (651.3)	24	5	25	600
	1950639 (Sliding Drawer Rack for Microplates)	9.5 x 5.5 x 26.3 (24 x 14 x 66.8)	28 (793)	28	6	30	840
Flexible, Side Access Microplate Racks	Model No. (Description)	Dimensions H x W x D in. (cm)	Freezer Vol. cu. ft. (liters)	Plates With Lids	Plates Without Lids	Deepwell Plates	Racks Shelf, Freezer
	398321 (Microplate / Deepwell Rack with Locking Rods)	9.4 x 5.5 x 18.4 (23.9 x 14 x 46.7)	13 (368)	70	85	25	4, 16
	398323 (Microplate / Deepwell Rack with Locking Rods)	9.4 x 5.5 x 22 (23.9 x 14 x 55.9)	17.3 (490)	84	96	30	4, 16
			23 (651.3)	84	96	30	5, 20

### Racking Shelf Kits Includes Sliding Drawer Racks and 2" Boxes With 100 Count Cell Dividers

Model No.	Freezer Vol. cu. ft. (liters)	Racks Included	Boxes Included
RSK13SD5	13 (368)	4	48
RSK17SD5	17.3 (489.9)	4	64
RSK23SD5	23 (651.3)	4	80
RSK600SD5	28 (793)	4	120

See page 16 for  
Cryo Boxes and Dividers