

Ultra-Low Temperature Freezers



# Setting the Benchmark

New Brunswick™ freezers set the standard for superior quality, performance and energy efficiency



# Eppendorf Family of New Brunswick Ultra-Low Temperature Freezers

## **Raising the bar**

For over 50 years, Eppendorf lab products have set new standards providing you with innovative and reliable solutions for your lab. For more than 30 years, our New Brunswick Ultra-Low Temperature (ULT) freezers have offered exceptional quality that goes beyond capacity to provide you with optimal performance, outstanding energy efficiency, and superior temperature management. Each freezer is designed to fit through a standard doorway to easily fit into any laboratory setting and operate at low heat-output and low noise levels

to benefit your work environment. The Eppendorf Freezer portfolio includes 3 different models, allowing a freezer to be perfectly suited to your needs while providing the safest preservation for your most precious samples. With unmatched service and support, your New Brunswick Freezer will provide you with peace-of-mind for years to come. Premium, HEF® and Innova® models are available in both chest and upright configurations ranging from 3.6 ft³ to 26.9 ft³.

### Uncompromising quality

From initial product design to final delivery, the Eppendorf freezer portfolio sets the bar for offering a high quality product for your lab. Optimal performance, superior sample security and intuitive operation are the result of a high quality design and manufacturing process using only the best components. This ensures you consistent, reliable performance for years to come. Every freezer is individually tested and performance certified offering peace-of-mind for your most valued samples.



### Eco-friendly and highest energy efficiency

New Brunswick freezers are among the most energy-efficient ULT freezers on the market. Long-standing leader in energy efficiency, the Innova and Premium model freezers feature an ultra-efficient compressor system which increase energy efficiency. High quality gaskets and insulated inner doors keep cold air loss to a minimum, optimizing temperature management and reducing energy consumption. Our HEF models are designed with additional features to further reduce energy consumption compared to other model freezers.



### Unmatched service and support

Dedicated to providing you the best service and support for your ULT and all accessories, Eppendorf provides a convenient and comprehensive manufacturer's warranty covering labor and parts. Our service and support organization consists of qualified field technicians, and highly trained customer service and technical representatives who are readily available to offer professional assistance when and where you need it.



# Designed with you in mind

New Brunswick freezers are designed and manufactured using high quality techniques and advanced technology to achieve user convenience, intuitive operation, and optimal performance, offering secure long and short term sample preservation. Premium, HEF and Innova models are available in both chest and upright configurations ranging from 3.6 ft<sup>3</sup> to 26.9 ft<sup>3</sup> to accommodate any lab's needs.

## **Innova Model**

- > Compact footprint, 30% more interior capacity
- > Polyurethane and vacuum insulated panels
- > 3 interior compartments with insulated and gasketed inner doors



## **High Efficiency HEF Model**

- > High energy efficiency
- > Polyurethane and vacuum insulated panels
- > 5 interior compartments with insulated inner doors



## **Premium Model**

- > Economic, entry-level ULT
- > Polyurethane insulation
- > 5 interior compartments with insulated inner doors



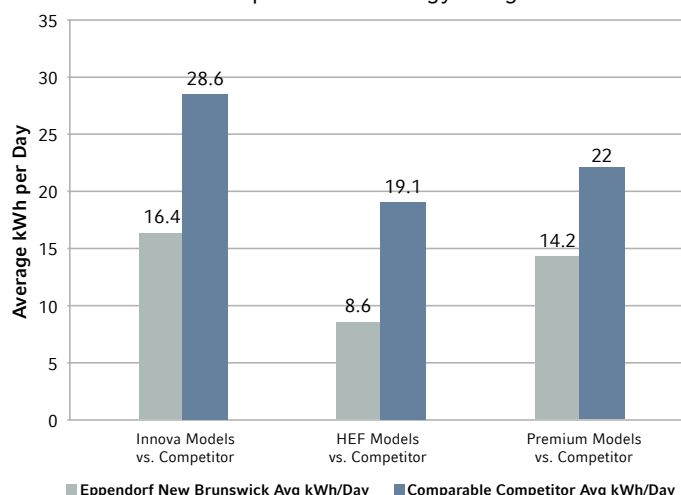
# The eco-logical choice™

Environmentally friendly and energy efficient.

Ultra-low temperature freezers are traditionally high energy consumers as they maintain extremely low temperatures 24/7. With today's high energy costs and focus on the environment, energy conservation has become even more important in the lab. Eco-friendly New Brunswick ULT freezers are designed to help you save energy without compromising sample security.

- > A highly efficient compressor control system reduces cycling times to lower energy consumption and increase freezer longevity
- > Low noise levels and heat output to benefit your work environment
- > High quality insulation materials and gaskets provide ultimate temperature control and optimized energy efficiency
- > Environmentally safe, HCFC-free and CFC-free refrigerants minimize greenhouse gases
- > Biodegradable and commercially-available, high-performance, synthetic compressor lubricants prevent "oil-logging"
- > A single, quiet, condenser fan reduces energy consumption; compared to most freezers that require two
- > Built with 95–98% recyclable materials (by weight)
- > Meets WEEE directives for disposal

Comparison of Energy Usage



New Brunswick freezers reduce energy consumption by thousands of kilowatt hours when compared to comparable competitor models of similar size. The net effect of using a New Brunswick freezer compared to other manufacturer freezer models result in an average reduction of 28.2 tons of CO<sub>2</sub> emissions, and average of over 40% savings in annual energy costs.

## Green Worksheet

New Brunswick Freezer model	Capacity (ft³)	kWh/Day New Brunswick freezers	kWh/Day competitor's freezer	kWh/Day savings with New Brunswick freezer	National Average cost per kWh	Energy savings over 10 years	Energy Savings for every 25 units over 10 years	Reduction in CO <sub>2</sub> Emissions over 10 years¹
HEF U410	14.5	8.6	19.1	10.5	0.12	\$4,599	\$114,975	26.3 tons
HEF U570	20.0	12.2	24.0	11.8		5,168	129,210	29.5 tons
HEF C660	23.3	11.6	29.1	17.5		7,665	191,625	43.8 tons
Innova U101	3.6	6.3	7.1	0.8		350	8,760	2.0 tons
Innova U360	12.7	11.6	18.6	7.0		3,066	76,650	17.5 tons
Innova U535	18.9	13.2	25.0	11.8		5,168	129,210	29.5 tons
Innova U725	25.6	16.4	29.5	13.1		5,738	143,445	32.8 tons
Innova C585	20.7	13.9	27.5	13.6		5,957	148,920	34.0 tons
Innova C760	26.9	16.7	30.0	13.3		5,825	145,635	33.3 tons
Premium U410	14.5	13.0	19.1	6.1		2,672	66,795	27.3 tons
Premium U570	20	14.2	24.0	9.8		4,292	107,310	24.8 tons
Premium U700	25	16.6	29.5	12.9		5,650	141,255	36.5 tons
Premium C340	12	10.3	24.0	13.7		6,001	150,015	34.3 tons
Premium C660	23.3	15.0	29.1	14.1		6,176	154,395	35.3 tons

¹Based on national average of 1.37 lbs CO<sub>2</sub>/kWh  
www.eia.doe.gov



**Flush, front-mounted control panel**

- > Ergonomically located
- > Easy to read LED display
- > Intuitive operation
- > User-defined passwords for extra sample security
- > Audible and visual alarms for high and low temperature conditions, power failure, low battery, blocked filter and fault condition
- > Automatic restart with non-volatile memory returns set points to user-programmed levels after power interruptions
- > Battery back-up operates control panel during power outage



**Combine and connect**

- > Two access ports conveniently located to integrate CO<sub>2</sub> or LN<sub>2</sub> back-up systems or additional probes
- > Remote contacts provide connection to an external, user-supplied, security system

**Ergonomic operation**

- > Flush mounted, eye-level intuitive control panel
- > Easy, one-handed operation door handle
- > Low noise and heat output to benefit your work environment

**Multiple compartments**

- > Insulated inner doors and sub-lids protect samples and improve energy efficiency
- > Inner doors are easily removable
- > Top quality stainless steel chamber and shelves are easily maintained and prevent oxidation, scratches and rust
- > Easily organize your samples

**Frost-resistant, high quality gaskets**

- > Outer door gasket ensures a secure seal to minimize cold air loss while protecting against ice build-up

**Heated vent port**

- > Provides vacuum release for ergonomic freezer re-entry

**Easily maintained**

- > Uses industrial grade, commercially available, hermetically sealed compressors for optimal performance and product longevity
- > Front-mounted and washable filter is easily accessed without tools
- > Quiet, powerful fan reduces noise and maintenance

**Placement flexibility**

- > All models fit through a standard doorway
- > Heavy-duty casters allow for easy and safe transfer of the freezer to your lab, including transfer in elevators
- > Available to accommodate 120 V and 208 V configurations
- > Unique and standard sized models to fit any tight space or sample capacity

**Versatility**

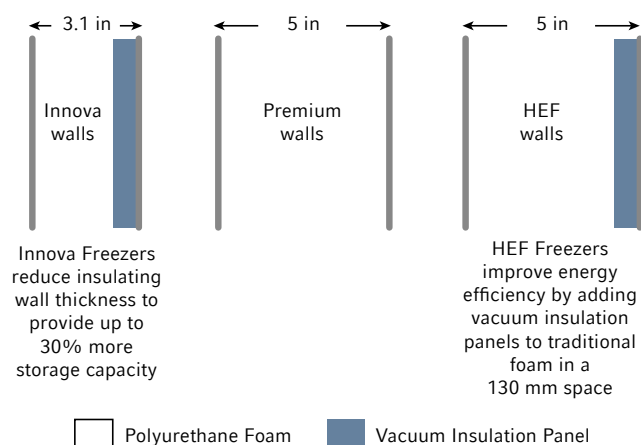
- > A wide range of freezer racks and accessories provide a safe and organized environment for your samples
- > Maintain temperatures ranging from -50 °C to -86 °C for a variety of applications

**Performance and Efficiency**

- > Multiple compartments with insulated inner doors, and gasketed on Innova models keep cold air loss to a minimum resulting in optimal temperature performance and energy efficiency
- > Flat, frost-resistant gaskets on outer door prevents ice build-up and minimizes cold air loss
- > Advanced compressor control system reduces cycling times to lower energy consumption and increase product longevity
- > Rapid temperature recovery after door opening and quick pull down times

**Sample Security**

- > Internal voltage stabilizer included on Innova models evens out voltage fluctuations to protect your freezer and maintain stable power (excludes U101 and U360, external stabilizers available for other models)
- > Each freezer is extensively tested prior to delivery, including tests on pull-down times and performance
- > Extensive warranty: 2 years on labor, 5 years on all parts
- > CE and UL certified

**Advanced vacuum insulation panel technology**

- New Brunswick Innova and High Efficiency Freezers use Vacupor NT vacuum insulation panel technology. This advanced thermal insulation technology significantly out-performs traditional materials such as closed-cell foams (urethane), foam beads and fiber blankets.
- > Vacupor NT insulation technology provides exceptional thermal insulation
  - > Metal-coated polymer film barrier seals panels to maintain the vacuum
  - > Composed of biodegradable, CFC-free and HCFC-free materials
  - > 12-year warranty on panels

# New Brunswick Innova Freezers

## More capacity. Same freezer footprint.

When it comes to maximizing sample storage capacity and security, the Innova model sets the standard. Their advanced design and sample safety features provide peace-of-mind for every lab, offering chest and upright models from 3.6 ft<sup>3</sup> to 26.9 ft<sup>3</sup>

- > 3 interior compartments with aluminum inner doors which are insulated and gasketed for reducing cold air loss
- > Inner doors easily lift off hinges for easy maintenance
- > Vacuum insulated panels provide optimal temperature control while reducing external footprint by 30%!
- > Built-in voltage stabilizer protects against high and low voltage fluctuations
- > Unique product portfolio includes under-the-counter 3.6 ft<sup>3</sup> U101 and super slim U360 that is only 26.4 inches wide for the labs that are tight on space!
- > Leveling feet provide an easy and secure footprint



**Innova Upright Model U101\*\***

3.6 ft<sup>3</sup>, 101 L

Holds up to 6,000 samples

External dimensions (H x W x D):

32.7 x 35.4 x 22.3 in

U9420-0000 (120 V)



**Innova Upright Model U360**

12.7 ft<sup>3</sup>, 360 L

Holds up to 25,200 samples

External dimensions (H x W x D):

76.8 x 26.4 x 34.1 in

U9425-0000 (120 V)



**Innova Upright Model U535**

18.9 ft<sup>3</sup>, 535 L

Holds up to 33,600 samples

External dimensions (H x W x D):

76.8 x 31.5 x 34.1 in

U9430-0000 (120 V)

U9430-0002 (208 V)



### Advanced U360 control panel

**On-screen system messaging:** Displays setpoints and details of alarms, door openings and operating conditions with time-date stamp

**Automated data logging:** Temperature, alarms and door opening data are stored for up to 30 days, for on-screen graphing. Downloadable to PC with optional communication ports, for your strictest validation requirements

**Bright, easily read, backlit LCD:** Located at eye level. Display screen measures 4.75 x 2.7 in (12 x 6.8 cm)

**Total system security and control** are ensured through use of multiple sensors and flexible programming of alarms, user ID and passwords

**Alarm log** identifies door open, power failure, electric fault, and sensor failures for cabinet and ambient temperature, and air-cooled and cascade condensers




**Innova Upright Model U725**

25.6 ft<sup>3</sup>, 725 L

Holds up to 50,400 samples

External dimensions (H x W x D):

76.8 x 40.4 x 34.1 in

U9440-0002 (208 V)


**Innova Chest Model C585\***

20.7 ft<sup>3</sup>, 585 L

Holds up to 41,600 samples

External dimensions (H x W x D):

43 x 66.5 x 30.9 in

U9400-0000 (120 V)

U9400-0002 (208 V)


**Innova Chest Model C760\***

26.9 ft<sup>3</sup>, 760 L

Holds up to 57,200 samples

External dimensions (H x W x D):

43 x 80.7 x 30.9 in

U9410-0002 (208 V)

\* Sub lids for chest models include two injection-molded, insulated lids on C585 and three on C760.

\*\* U101 has 2 casters located in the rear of the freezer instead of the standard 4.

To allow for handles and hinges, add 3.1 inches to width of upright freezers and 4.3 inches to depth of chest freezers. Open doors on upright freezers add up to 6 inches.

See pages 18–19 for ordering information, detailed technical specifications and performance data.



# New Brunswick HEF High Efficiency Freezers

## **Most energy-efficient, eco-friendly freezers anywhere**

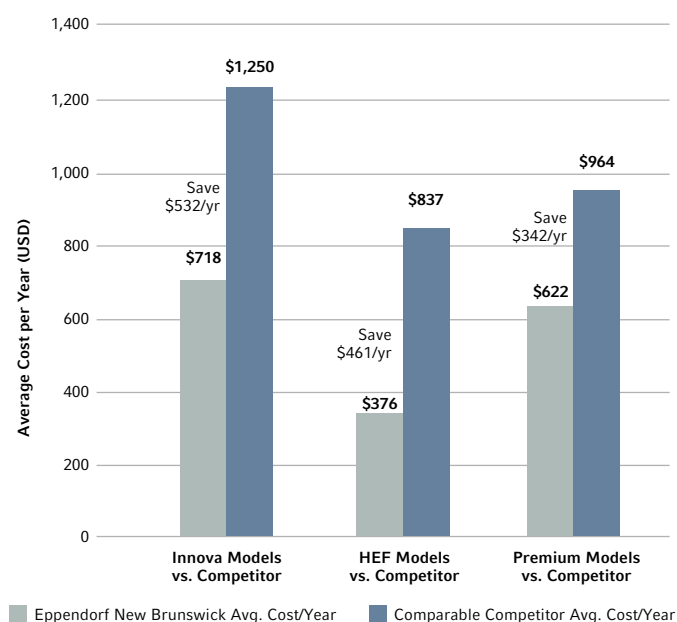
For Eppendorf, being green is not a trend, it's in our nature. Since 1945 we have recognized our place as a global citizen and began our green initiative by building high quality, long lasting products. Today, we continue to set new standards with our HEF freezers, among the most energy-efficient ultra-low temperature freezers on the market.

### **New HEF high efficiency freezers**

HEF Freezers minimize operating costs while providing superior protection for your critical samples. They reduce energy consumption by up to 59% when compared to other models. HEF Freezers provide all of the features of New Brunswick Premium models and more.

- > Vacuum insulation panels combined with traditional polyurethane foam form a 5 inch thick layer of insulation for exceptional energy efficiency
- > A high-efficiency, low-noise condenser fan and compressor system maximize energy efficiency

### Yearly Operation Costs<sup>1</sup>



<sup>1</sup> Based on the national average of 0.12 cents per kWh.



#### HEF Upright Model U410

14.5 ft<sup>3</sup>, 410 L

Holds up to 24,000 samples

External dimensions (H x W x D):

75.3 x 31.5 x 33.5 in

U9260-0007 (120 V)



#### HEF Upright Model U570

20.0 ft<sup>3</sup>, 570 L

Holds up to 40,000 samples

External dimensions (H x W x D):

75.8 x 40.3 x 33.5 in

U9270-0007 (120 V)



#### HEF Chest Model C660\*

23.3 ft<sup>3</sup>, 660 L

Holds up to 52,000 samples

External dimensions (H x W x D):

42.3 x 80.7 x 33 in

U9250-0009 (208 V)

\* Sub lids for chest models include three injection-molded, insulated lids on C660.

To allow for handles and hinges, add 3.1 inches to width of upright freezers and 4.3 inches to depth of chest freezers. Open doors on upright freezers add up to 6 inches.

See pages 18–19 for ordering information, detailed technical specifications and performance data.

# New Brunswick Premium Freezers

## Quality. Reliability. Value.

Over 30 years of innovation have gone into the design of New Brunswick Premium Freezers—the original benchmark for top quality ultra-low temperature freezers.

Premium Freezers are known for their worry-free, long-term reliability, sample preservation, and energy efficiency. They provide many of the same features as our Innova models, but are conventionally-insulated for a cost-effective alternative. Polyurethane insulation combined with a highly efficient cooling system achieve and maintain ultra-low temperatures of  $-86^{\circ}\text{C}$ .

Premium Freezer models provide significant energy savings—up to 40% less energy consumption compared to other manufacturers' models.

- > Five interior compartments with insulated inner doors for superior sample protection
- > Polyurethane insulation for high performance and efficiency
- > Five models available ranging from 12-25 ft<sup>3</sup>



### Premium Upright Model U410

14.5 ft<sup>3</sup>

410 L

Holds up to 24,000 samples

External dimensions (H x W x D):

75.3 x 31.5 x 33.5 in

U9260-0000 (120 V)

U9260-0002 (208 V)



### Premium Upright Model U570

20.0 ft<sup>3</sup>

570 L

Holds up to 40,000 samples

External dimensions (H x W x D):

75.8 x 40.3 x 33.5 in

U9270-0000 (120 V)

U9270-0002 (208 V)



### Premium Upright Model U700

25.0 ft<sup>3</sup>

700 L

Holds up to 48,000 samples

External dimensions (H x W x D):

77.1 x 44.1 x 34.2 in

U9280-0000 (120 V)

U9280-0002 (208 V)



Premium Freezers offer the advantage of five interior compartments to limit cold air loss during sample access



#### **Premium Chest Model C340\***

12.0 ft<sup>3</sup>

340 L

Holds up to 26,000 samples

External dimensions (H x W x D):

42.3 x 52.7 x 33 in

U9230-0000 (120 V)



#### **Premium Chest Model C660\***

23.3 ft<sup>3</sup>

660 L

Holds up to 52,000 samples

External dimensions (H x W x D):

42.3 x 80.7 x 33 in

U9250-0002 (208 V)

\* Sub lids for chest models include two injection-molded, insulated lids on C340 and three on C660.

To allow for handles and hinges, add 3.1 inches to width of upright freezers and 4.3 inches to depth of chest freezers. Open doors on upright freezers add up to 6 inches.

See pages 18–19 for ordering information, detailed technical specifications and performance data.

# A wide range of accessories

## CO<sub>2</sub> and LN<sub>2</sub> back-up systems

Loss of power is no problem with Eppendorf back-up systems, which are designed to maintain the contents of your freezer at a preset temperature should a power outage arise.

- > CO<sub>2</sub> or LN<sub>2</sub> is pulsed or continuously released into the chamber to ensure uniform and effective cooling while avoiding excessive consumption. CO<sub>2</sub> can maintain temperatures between –50 °C and –70 °C, where LN<sub>2</sub> can go down to –85 °C
- > Equipped with battery back-up to temporarily protect freezer contents during a power failure

## Chart recorder

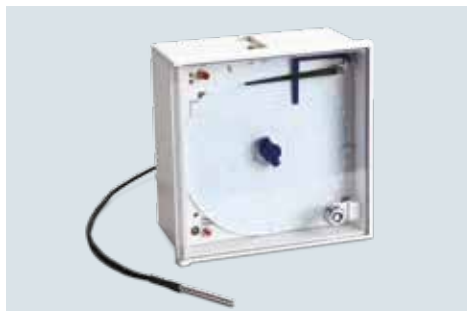
- > Continuously monitor and record freezer temperature for up to 31 days
- > Covers a temperature range of –100 °C to 100 °C, with ±2% accuracy

## Voltage stabilizers

- > Modulate incoming line voltage and are available for freezer models that do not include an internal stabilizer

## Padlock adapter kit

- > Allows a user-supplied padlock to be added to the freezer's outer door handle for extra security



CO<sub>2</sub> back-ups, LN<sub>2</sub> back-ups, and chart recorders can be factory installed **free of charge** when ordered at time of purchase. CO<sub>2</sub> and LN<sub>2</sub> are not interchangeable systems. Gas tank is not included with back-up systems.

## Ordering information

Description	Catalog No.
<b>Back-up systems</b>	
Innova CO <sub>2</sub> back-up, 120 – 220 V, 60 Hz	U9043-0002
Premium/HEF CO <sub>2</sub> back-up, 120 – 220 V, 60 Hz	U9043-0006
Innova LN <sub>2</sub> back-up, 120 – 220 V, 60 Hz	U9044-0002
Premium/HEF LN <sub>2</sub> back-up, 120 – 220 V, 60 Hz	U9044-0006
Chart recorder	P0625-2100
<b>Voltage stabilizers</b>	
Internal slide-in voltage stabilizer for 60 Hz Innova U360	P0625-1090
External voltage stabilizer 120 V, 60 Hz	M1322-0000
External voltage stabilizer 220 V, 60 Hz	M1322-0002
<b>Other accessories</b>	
U101 stacking kit	P0625-0020
Padlock adapter kit for upright models	P0625-1170





# Advanced security for peace-of-mind

## TCA-3 independent temperature monitoring system

Eppendorf's TCA-3 is an independent temperature monitoring system for those who require complete and reliable sample protection 24 hours a day, 7 days a week. The device provides the features of an alarm, a chart recorder and an autodialer all incorporated into one small pod that integrates seamlessly to any freezer.

Customize your device to send notifications by e-mail, phone, or text message in the event of an alarm. The TCA-3 transmits data to a highly secure data server where redundant systems store a lifetime of data-points. The intuitive graphing and tracking functions provide a complete record of freezer performance. Monitor your freezer in real-time from any web enabled device, anywhere in the world. No need for additional software or a dedicated computer!

- > Small and versatile monitor works with any freezer
- > Customizable alarm notifications by phone, e-mail and text are sent to multiple users until an acknowledgement is received
- > Non-alterable data meets regulatory requirements
- > Alarm acknowledgements and resolutions are tracked for regulatory control
- > Continuous, real-time monitoring records infinite data points for the lifetime of your monitor
- > Easy, Microsoft Excel® compatible report generation
- > Can link multiple monitors to one user login
- > Chamber and ambient temperature probes included and calibrated for immediate use
- > Power-over-Ethernet (PoE) capable
- > Secure, encrypted data transmission
- > Firewall compatible
- > No monthly service fees



## Compact communication pod

Easily mounts to the side of your freezer. Includes chamber and ambient temperature probe.

## Technical specifications

Dimensions	4.9 x 2.6 x 1.2 in
Weight	227 g (8 oz.)
Sampling rate	User-selected, 30 sec. to 24 hr.
Emergency data storage	256 data points
Operating environment	-40 °C to 70 °C, 5 to 95% rh

## Ordering information

Description	Electrical service	Catalog No.
Pod and probe with wall plug power connection	120 V, 60 Hz	P0625-1630

## Performance specifications

### In-chamber temperature sensor

Temperature range	-200 °C to +200 °C
Typical accuracy	±1 °C
Measurement resolution	0.1 °C
Sensor type	1 x RTD

### Ambient temperature sensor

Temperature range	-40 °C to + 70 °C
Typical accuracy at 25 °C	±1.4 °C
Typical accuracy over full range	±2.1 %
Measurement resolution	0.21 °C

# Maximize storage space

### Eppendorf Inventory Racking

Eppendorf provides a durable, lightweight racking system that will perfectly complement your New Brunswick freezer to optimally store and organize your samples.

- > Draw-style racks available for both upright and chest configurations
- > Made of durable, non-corrosive anodized aluminum for long-term use
- > Available for 2-inch, 3-inch, and 4-inch boxes
- > Maximize every inch of storage space



### Cardboard Freezer Boxes and Dividers

- > Wax-coated, water-resistant cardboard boxes keep your samples safe and organized
- > Available for 2-inch, 3-inch, and 4-inch tall vials
- > Dividers are available in several different configurations to accommodate from 11.8 to 17.4 tube diameter
- > 7 x 7 to 10 x 10 compartments available

### Polypropylene Storage Box

- > For 25 x 5 mL conical tubes
- > Lid with alphanumeric labeling for easy tube identification
- > Comes with 2 boxes: 1 red and 1 blue



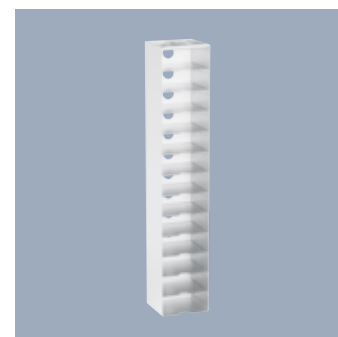
Racks for upright freezers feature trays that pull forward for easy access to your samples

Ordering information	Size (mm) W x D x H	Capacity	Catalog No.
<b>Description</b>			
<b>Boxes</b>			
2 in. (50 mm) tall	133 x 133 x 50	Varies, dependent on divider used	B50-SQ
3 in. (75 mm) tall	133 x 133 x 75	Varies, dependent on divider used	B75-SQ
4 in. (100 mm) tall	133 x 133 x 100	Varies, dependent on divider used	B95-SQ
5 mL Freezer box	128 x 128 x 67 mm	25 tubes	0030127943
<b>Dividers</b>			
7 x 7 compartments	17.4 mm max tube diameter	49 tubes	D49
8 x 8 compartments	15 mm max tube diameter	64 tubes	D64
9 x 9 compartments	13 mm max tube diameter	81 tubes	D81
10 x 10 compartments	11.8 mm max tube diameter	100 tubes	D100

# Eppendorf Freezer Racks



Style	Innova U101	Upright Innova	Upright Premium and HEF	Chest Freezers
		Innova U360 Innova U535 Innova U725	Premium / HEF U410 Premium / HEF U570 Premium U700	Premium C340 Innova C585 Premium/HEF C660 Innova C760
Model	Under the counter Innova U101			
2 in box	K0641-3003	K0641-3000	K0641-1900	K0641-1690
3 in box	K0641-3004	K0641-3001	K0641-1890	K0641-1700
4 in box	K0641-3005	K0641-3002	K0641-1880	K0641-1750
Rack Dimensions	12.13 x 5.55 x 11.52 in 308 x 141 x 292.5 mm	16.16 x 5.5 x 22.24 in 410.5 x 141 x 565 mm	9.25 x 5.5 x 22.24 in 235 x 141 x 565 mm	29.61 x 5.47 x 5.35 in 752 x 139 x 136 mm



Line

## Innova Freezers






Style		Upright	Upright	Upright	Upright	Chest	Chest
Model No.		U101	U360	U535	U725	C585	C760
Capacity (ft³)		3.6	12.7	18.9	25.6	20.7	26.9
Catalog No.	120 V, 60 Hz	U9420-0000	U9425-0000	U9430-0000	—	U9400-0000	—
	208–230 V, 60 Hz	—	—	U9430-0002	U9440-0002	U9400-0002	U9410-0002
Plug provided (white); Outlet required (black) 120 V		5–15P 	5–20P 	5–20P  6–15P 	—	5–20P  6–15P 	6–15P 
208–230 V							
Capacity	Overall	101 L	360 L	535 L	725 L	585 L	760 L
	Compartments	2	3	3	3	—	—
	Racks per shelf	3	3	4	6	—	—
	Racks per freezer	6	9	12	18	32	44
	Box capacity per rack	2 in (50 mm) box (H)	10	28	28	13	13
		3 in (75 mm) box (H)	6	20	20	9	9
		4 in (100 mm) box (H)	4	12	12	6	6
	Box capacity per freezer	2 in (50 mm) box (H)	60	252	336	416	572
		3 in (75 mm) box (H)	36	180	240	288	396
		4 in (100 mm) box (H)	24	108	144	192	264
	Sample capacity per freezer	2 in (50 mm) box (H)	6,000	25,200	33,600	41,600	57,200
		3 in (75 mm) box (H)	3,600	18,000	24,000	28,800	39,600
		4 in (100 mm) box (H)	2,400	10,800	14,400	19,200	26,400
Performance	Pull down to –85 °C (Hours) <sup>2</sup>	120 V, 60 Hz	3.5	5	5.3	—	4.3
		208–230V, 60 Hz	—	—	5.3	5.2	4.3
	Noise level (dB)	120 V, 60 Hz	54	54	56	—	56
		208–230V, 60 Hz	—	—	56	59	56
	Heat output (watts)	120 V, 60 Hz	344	623	720	—	700
		208–230V, 60 Hz	—	—	720	750	700
Power	Electric / Mains (A) / Full load amp draw	120 V, 60 Hz	13	16.5	16.5	—	16.5
		208–230 V, 60 Hz	—	—	9	10	9
	kWh per day <sup>1</sup>	120 V, 60 Hz	6.4	11.7	13.2	—	13.9
		208–230 V, 60 Hz	—	—	13.2	16.4	13.9
Refrigerant	60 Hz models	404A/508B	404A/508B	404A/508B	404A/508B	404A/508B	404A/508B
Dimensions <sup>3</sup>	External	Height (in)	32.7	76.8	76.8	76.8	43
		Width (in)	35.4	26.4	31.5	40.4	66.5
		Depth (in)	22.3	34.1	34.1	34.1	30.9
	Internal	Height (in)	25.2	53.7	53.7	53.7	30.7
		Width (in)	18.9	17.3	25.2	34.1	97.2
		Depth (in)	13	24.2	24.2	24.2	24.6
Compartment Heights	Top (in)	12.6	16.57	16.57	16.57	—	—
	Middle (in)		16.73	16.73	16.73	—	—
	Bottom (in)	12.4	16.73	16.73	16.73	—	—
Weight	Net weight (lbs)	256	507	551	693	528	627
	Shipping weight (lbs)	330	529	656	799	656	732

<sup>1</sup> Empty freezer with shelves fitted (upright freezers only), set point –80 °C, 22–26 °C ambient conditions.<sup>2</sup> Empty freezer with shelves fitted (upright freezers only), pull down from 22–26 °C ambient conditions.<sup>3</sup> Optional CO2/LN2 back-up systems add 8.65 cm (3.4 in) to height.






## High Efficiency Freezers



Upright	Upright	Chest
HEF U410	HEF U570	HEF C660
14.5	20.0	23.3
U9260-0007	U9270-0007	—
—	—	U9250-0009
5-20 P 	5-20 P 	6-15P 
410 L	570 L	660 L
5	5	—
3	5	—
15	25	40
16	16	13
12	12	9
8	8	6
240	400	520
180	300	360
120	200	240
24,000	40,000	52,000
18,000	30,000	36,000
12,000	20,000	24,000
5.8	6	—
—	—	6
57	58.5	—
—	—	61
525	630	—
—	—	580
16.5	16.5	—
—	—	8
8.6	12.2	—
—	—	11.5
404A/508B	404A/508B	404A/508B
75.3	75.8	42.3
31.5	40.3	80.7
33.5	33.5	33
49.8	49.8	30
21.6	30.1	57.8
22.6	22.6	23.2
9.84	9.84	—
9.45	9.45	—
9.45	9.45	—
518	584	616
623	689	722

## Premium Freezers



Upright	Upright	Upright	Chest	Chest
U410	U570	U700	C340	C660
14.5	20.0	25.0	12.0	23.3
U9260-0000	U9270-0000	U9280-0000	U9230-0000	—
U9260-0002	U9270-0002	U9280-0002	—	U9250-0002
5-20P 	5-20P 	5-20P 	5-20P 	6-15P 
410 L	570 L	700 L	340 L	660 L
5	5	5	—	—
3	5	6	—	—
15	25	30	20	40
16	16	16	13	13
12	12	12	9	9
8	8	8	6	6
240	400	480	260	520
180	300	360	180	360
120	200	240	120	240
24,000	40,000	48,000	26,000	52,000
18,000	30,000	36,000	18,000	36,000
12,000	20,000	24,000	12,000	24,000
4.1	5.3	5.9	3.4	—
4.1	5.3	4.8	—	6
57	58.5	61	58	—
57	58.5	61	—	58
600	700	755	580	—
600	700	755	—	650
16.5	16.5	13	16.5	—
8	9	8	—	8
13	14.2	15.9	10.3	—
13	14.2	15.9	—	15
404A/508B	404A/508B	404A/508B	404A/508B	404A/508B
75.3	75.8	77.1	42.3	42.3
31.5	40.3	44.1	52.7	80.7
33.5	33.5	34.3	33	33
49.8	49.8	51.8	30	30
21.6	30.1	34.1	30	57.8
22.6	22.6	24.1	23.2	23.2
9.84	9.84	9.8	—	—
9.45	9.45	10.43	—	—
9.45	9.45	10.37	—	—
518	584	615	441	616
623	689	820	546	722

# Backed by world-class service

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- > Professional and qualified field service technicians
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- > Accessories have a comprehensive 1-year warranty
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