

## All NBS Freezers Are Environmentally Friendly & Energy Efficient

All NBS Freezers are exceptionally energy efficient. Our freezers consume roughly half the power of competitors' ULT freezers of similar size, drastically reducing your energy bills and reducing greenhouse gasses that effect our environment. How do we do it?

**Specialized low-temperature seals** on outer & inner doors prevent cold air loss.

**Insulated inner doors & sub-lids** reduce temperature fluctuation.

**New ice-proof, inner-door latches** minimize cold air loss. (Innova models only.)

**Multiple compartments** reduce cold air loss when the outer door is opened.

**Use of a single, powerful fan** (most freezers require two) reduce energy consumption.

**Two-stage cascade refrigeration system** provides efficient circulation of refrigerants.

**Efficient compressors** reduce cycle times, to significantly reduce energy usage.

**Filter cleaning indicator** prevents compressor overheating.

To calculate how much you can over the life of your freezer, see [www.nbsc.com/freezers](http://www.nbsc.com/freezers).

## Eco-Friendly Green Freezers, Innova® U725-G & Premium U570-G Upright Models

NBS is proud to offer our first hydrocarbon-based refrigerant freezers, to further help prevent global warming. These models are identical in all respects to our energy-efficient and eco-friendly Innova U725 & Premium U570 freezers except that in addition to eliminating all use of CFCs and HCFCs, these models are also free of hydrofluorocarbons (HFCs):

- HFCs are a known greenhouse gas and contributor to global warming.
- By switching to hydrocarbon propane/butane based refrigeration system, NBS is able to offer **the most environmentally friendly, energy efficient ULT freezer on the market**, while maintaining safety and reliability.
- Water-cooled options are available for even more energy and environmental savings.

### NBS Freezers are Eco-Friendly

- No CFCs or HCFCs (chlorofluorocarbons / hydrochlorofluorocarbons) are used, to reduce emission of greenhouse gasses, as well as minimize depletion of the ozone layer.
- Four new HFC-Free "Green" Models are now offered.
- NBS freezers are 95 - 98% recyclable (by weight).
- And they meet all WEEE Directives for Disposal, as set by the European Union.

## Which Model is Right For You?

**Space-Saving Innova® Freezers** – utilize Vacuum Insulation Panel technology to provide up to 30% more internal capacity than freezers of equal size. Seven models are offered. See pages 32-34.

**Economical Premium Freezers** – these conventionally-insulated models provide a cost-effective alternative, with many of the same features and quality as the Innova models. See pages 34-35.

**NEW HFC-Free Green Freezers** safeguard your samples and the environment. Currently available in 50 Hz models only. See below for details.



Innova® U725-G



Premium U570-G

Model	Catalog No.	Electrical Service
<b>Innova U725-G Upright</b>	U9440-0005 Air-Cooled	230V, 50Hz
	U9440-0004 Water-Cooled	230V, 50Hz
<b>Premium U570-G Upright</b>	U9270-0005 Air-Cooled	230V, 50Hz
	U9270-0004 Water-Cooled	230V, 50Hz

(#) These models are currently only available with 230 V, 50 Hz power and are supplied with both UK and Schuko power cords.

## ULTRA-LOW TEMPERATURE (-86°C) FREEZERS

### Innova® -86°C Freezers with Space-Saving Vacuum Insulation Panel Technology

Energy-efficient, quiet-running and dependable, Innova Freezers use space-saving Vacuum Insulation Panel technology to reduce wall thickness for a significant increase in storage capacity. Advanced features include:

**New gasketed, insulated inner doors** that lift off without tools for easy cleaning.

**Heated air vent with ice-clearing plunger** to allow doors to be opened at any time.

**Easy-to-read LED display** with display of system alarms and diagnostics.

**Internal voltage stabilizer** including buck/boost (60 Hz models only).

**Advanced security:** four-digit password protects temperature and alarm settings; keyed door lock with optional padlock adapter; lockable security plate protects power and alarm on-off switches; and remote alarm contacts for connection to your external building alarm/monitoring system.

**CE, UL & WEEE certifications.**

**Six space-saving Innova models to choose from:**

- Two Unique Upright Sizes – U101 & U360 are highlighted below and on page 33.)
- Two Large-Capacity Uprights: For easy access to samples, choose the U535 or larger U725, each with three compartments and two adjustable-height shelves.
- Two Chests: If a chest style is preferred, choose C585 or C760. Insulated sub-lids provide added sample protection.
- CO<sub>2</sub> and LN<sub>2</sub> Back-up Systems, racking and more are available – see page 35.

Model No.	Style	Capacity		Max. Box Capacity			Dimensions (H x W x D)	
		Liters	Cubic Ft.	2"	3"	4"	External†	Internal
<b>U101</b>	Upright	101	3.6	60	36	24	32.7" x 35.4" x 22.3" 83 x 90 x 56.6 cm	25.2" x 18.9" x 13" 64 x 48 x 33 cm
<b>U360</b>	Upright	360	12.7	252	180	108	76.8" x 26.4" x 34.1" 195 x 67.0 x 86.7 cm	53.7" x 17.3" x 24.2" 136.5 x 44.0 x 61.5 cm
<b>U535</b>	Upright	535	18.9	336	240	144	76.8" x 31.5" x 34.1" 195 x 80 x 86.7 cm	53.7" x 25.2" x 24.2" 136.5 x 64 x 61.5 cm
<b>U725 &amp;U725-G</b>	Upright	725	25.6	504	360	216	76.8" x 40.4" x 34.1" 195 x 102.5 x 86.7 cm	53.7" x 34.1" x 24.2" 136.5 x 86.5 x 61.5 cm
<b>C585</b>	Chest	585	20.7	416	288	192	43" x 66.5" x 30.9" 109.2 x 169 x 78.5 cm	30.7" x 47.2" x 24.6" 78 x 120 x 62.5 cm
<b>C760</b>	Chest	760	26.9	572	396	264	43" x 80.7" x 30.9" 109.2 x 205 x 78.5 cm	30.7" x 61.4" x 24.6" 78 x 156 x 62.5 cm

(†) To allow for handles and hinges, add 3.1" (80 mm) to width of upright freezers and 4.3" (110 mm) to the depth of chest freezers.

### Innova® U101 Personal-Sized, -86°C Upright Freezer For On or Under Your Lab Bench

Why store your valuable samples down the hall, when you can have the convenience and security of a personal-sized, 3.6 cu. ft (101 L) upright freezer on or under your lab bench?

- Integrated key lock on handle.
- Two inner doors prevent cold air loss; lift off for easy cleaning.
- Capacity: Hold up to 6000 samples (60 two-inch boxes).
- Stackable.
- Rear wheels provide easy mobility.
- All the advantages of our other Innova models.



Front-opening door for easy access to all samples

Model	Catalog No.	Electrical Service
<b>Innova U101 Upright</b>	U9420-0000 U9420-0001	120V, 60Hz* 230V, 50Hz‡
Stacking Kit	P0625-0020	—
External Voltage Stabilizer	M1322-0000	120V, 60 Hz
Air Filter, Washable Spare	K0200-0506	—

(\*) Dedicated 20 Amp line required for 120 V freezers. (‡) All 50 Hz freezers are supplied with both UK and Schuko power cords.

## Innova® U360 Ultra-Slim Upright Freezer with Advanced Control & Monitoring

Ultra-slimmer, 12.7 cu. ft. (360 liters), the Innova upright U360 offers all the advantages of our other Innova freezers, plus an advanced new controller with:

- Large, back-lit display (4.75" x 2.7" [12 x 6.8 cm]) for on-screen monitoring, programming & data graphing.
- Automated data logging of temperature, alarms and door openings.
- User-programmable setpoints, alarms & passwords – Programmable alarm delays, with log showing alarm acknowledgments.
- On-screen messaging and diagnostics.
- Three compartments with insulated, gasketed, lift-off inner doors, and an advanced new low-noise, energy-saving refrigeration system are a few of the other advantages.



Just 26.4" wide (67 cm) including the handle!

Model	Catalog No.	Electrical Service
<b>Innova U360 Upright</b>	U9425-0000 U9425-0001	120V, 60Hz* 230V, 50Hz‡
Internal, Slide-In Voltage Stabilize	P0625-1090	120V, 60Hz
Air Filter, Washable Spare	P0625-1110	—

(\*) Dedicated 20 Amp line required for 120 V freezers. (‡) All 50 Hz freezers are supplied with both UK and Schuko power cords.

## ULTRA-LOW TEMPERATURE (-86°) FREEZERS

## More Innova® Freezer Models, Uprights and Chests



U535



U725



C585



C760

Model	Catalog No.	Electrical Service
<b>Innova® U535 Upright</b>	U9430-0000 U9430-0002 U9430-0001	120V, 60Hz* 208/220V, 60Hz 230V, 50Hz†
<b>Innova® U725 Upright†</b>	U9440-0002 U9440-0001	208/220V, 60Hz* 230V, 50Hz†
<b>Innova® C585 Chest</b>	U9400-0000 U9400-0002 U9400-0001	120V, 60Hz* 208/220V, 60Hz 230V, 50Hz†
<b>Innova® C760 Chest</b>	U9410-0002 U9410-0001	208/220V, 60Hz 230V, 50Hz†

(\* ) Dedicated 20 Amp line required for 120 V freezers (†) All 50 Hz freezers are supplied with both UK and Schuko power cords.  
(†) See also 50 Hz HFC-free Green-model U725-G on page 31.

## Premium -86°C Ultra-Low Temperature Freezers with Traditional Urethane Foam Insulation

**Insulation:** Conventional urethane foam insulation.

**Display and Control:** Easy-to-read LED display; S.M.A.R.T. PLUS™ controller presents error and alarm codes and detailed systems information.

**Advanced Features:** NEW vent plunger; heated air vent prevents vacuum formation; keyed lock; user-defined password protection; stainless-steel interior; 4 shelves included in upright models; removable power cords and numerous options and accessories.

Model No.	Style	Capacity		Max. Box Capacity			Dimensions (H x W x D)	
		Liters	Cubic Ft.	2"	3"	4"	External†	Internal
<b>U410</b>	Upright	410	14.5	240	180	120	75.4" x 31.5" x 33.5" 191.5 x 80 x 85.2 cm	49.8" x 21.7" x 22.6" 126.5 x 55 x 57.5 cm
<b>U570 &amp; U570-G</b>	Upright	570	20	400	300	200	75.8" x 40.3" x 33.5" 192.5 x 102.5 x 85.2 cm	49.8" x 30.1" x 22.6" 126.5 x 76.5 x 57.5 cm
<b>C340</b>	Chest	340	12	260	180	120	42.3" x 52.8" x 33.1" 107.5 x 134 x 84 cm	30.0" x 30.0" x 23.2" 76 x 76 x 59 cm
<b>C660</b>	Chest	660	23.3	520	360	240	42.3" x 80.7" x 33.1" 107.5 x 205 x 84 cm	30.0" x 57.9" x 23.2" 76 x 147 x 59 cm

(†) To allow for handles and hinges, add 3.1" (80 mm) to width of upright freezers and 4.3" (110 mm) to the depth of chest freezers.

## Premium Freezer Models, Uprights and Chests

Four space-saving Premium models to choose from:

- Two Uprights: For easy access to samples, choose the U410 or U570, each with five compartments and four adjustable-height shelves.
- Two Chests: If a chest style is preferred, choose C340 or C660. Two insulated panels provide added insulation.
- CO<sub>2</sub> and LN<sub>2</sub> Back-up systems available – see below.



U410



U570



C340



C660

Model	Catalog No.	Electrical Service
<b>Premium U410 Upright</b>	U9260-0000	120V, 60Hz*
	U9260-0002	208/220V, 60Hz
	U9260-0001	230V, 50Hz <sup>‡</sup>
<b>Premium U570 Upright</b>	U9270-0000	120V, 60Hz*
	U9270-0002	208/220V, 60Hz
	U9270-0001	230V, 50 Hz <sup>‡</sup>
<b>Premium C340 Chest</b>	U9230-0000	120V, 60Hz*
	U9230-0001	230V, 50Hz <sup>‡</sup>
<b>Premium C660 Chest</b>	U9250-0002	208/220V, 60Hz
	U9250-0001	230V, 50Hz <sup>‡</sup>

(\* ) Dedicated 20 Amp line required for 120 V freezers. (‡) All 50 Hz freezers are supplied with both UK and Schuko power cords.

## CO<sub>2</sub> & LN<sub>2</sub> Freezer Back-up Systems, Innova<sup>®</sup> & Premium<sup>^</sup>

Totally independent systems utilize their own temperature probe and battery back-up to provide protection, even during a power outage.

Catalog No.	Description
<b>Innova<sup>®</sup> Freezers</b>	
U9043-0002	CO <sub>2</sub> Back-up, 120 - 220V, 60Hz
U9043-0004	CO <sub>2</sub> Back-up, 230V, 50Hz
U9044-0002	LN <sub>2</sub> Back-up, 120 - 220V, 60Hz
U9044-0004	LN <sub>2</sub> Back-up, 230V, 50Hz
<b>Premium Freezers</b>	
U9043-0006	CO <sub>2</sub> Back-up, 120 - 220V, 60Hz
U9043-0008	CO <sub>2</sub> Back-up, 230V, 50Hz
U9044-0006	LN <sub>2</sub> Back-up, 120 - 220V, 60Hz
U9044-0008	LN <sub>2</sub> Back-up, 230V, 50Hz

(^ ) NBS recommends that all back-up systems be factory installed.

## FREEZER ACCESSORIES, ALL MODELS

## Freezer Accessories (More accessories on pages 35 and below)

Catalog No.	Description
<b>7-Day Chart Recorder</b>	
K0440-0355	7-Day Chart Recorder
K0540-0025	Chart Recorder Paper, pack of 100 charts
K0660-0051	Chart Recorder Pens, pack of 3
<b>Shelves†</b>	
K0280-1031	Extra Shelf, Premium Model U410
K0280-1030	Extra Shelf, Premium Model U570
P0625-1180	Extra Shelf, Innova® Model U360
K0280-1034	Extra Shelf, Innova® Model U535
K0280-1036	Extra Shelf, Innova® Model U725
<b>Padlock Adapter Kit: All upright models</b>	
P0625-1170	Kit allows up to two user-supplied padlocks to be secured to outer door handle for extra security.
<b>External Voltage Stabilizer: for Premium and U101 Freezers only</b>	
M1322-0000	External Voltage Stabilizer, 120V, 60Hz
M1322-0002	External Voltage Stabilizer, 208/220V, 60Hz
<b>Automated Data Logging Software</b>	
M1291-0054	BioCommand® SFI - Automated Data Logging Software (see page 44).

CALL for Availability

(†) All shelves provided with 4 shelf clips for installation.

## Inventory Racking Systems, Innova® &amp; Premium

Lightweight for easy transport, yet durably constructed of non-corrosive aluminum, our freezer racking is exclusively designed for New Brunswick Scientific freezers to maximize storage space; and provide one of the lowest costs per capacity in the industry. Racks for upright freezers feature drawers that pull forward for easy accessibility to your samples. Standard racking holds boxes of various sizes, or we can supply racks to any specification. Other racking systems may be available. Contact your NBS sales representative for details.



## How To Select Racking Accessories

**Step 1.** Select your box size in the chart below.

**Step 2.** Choose the correct divider for your tube/vial diameter.

**Step 3.** Choose the appropriate rack to match your box size from the chart on the next page.

## 1. NBS Plastic-Coated Cardboard Boxes

Choose correct Box for your tube/vial C660	Catalog No.	Max Tube Height		Box Dimensions (H x W x D)	
		Inches	mm	Inches	mm
	B50-SQ	2"	50	5.2 x 5.2 x 1.97"	132 x 132 x 50 mm
B75-SQ	3"	75	5.2 x 5.2 x 2.76"	132 x 132 x 75 mm	
B95-SQ	4"	100	5.2 x 5.2 x 3.4"	132 x 132 x 100 mm	

## 2. Dividers for NBS Plastic-Coated Cardboard Boxes

Choose correct Box Divider for your tube/vial Diameter	Catalog No.	Maximum Tube Diameter		Matrix	No. of Vials or Tubes
		Inches	mm		
	D100	0.46	11.8	10 x 10	100
D81	0.51	13.0	9 x 9	81	
D64	0.59	15.0	8 x 8	64	
D49	0.69	17.4	7 x 7	49	

## 3. Racks and Boxes

To determine the Rack Catalog Number and Price, select your box size, and read down the chart columns.				To determine maximum quantity of Racks and Boxes your freezer can hold, read across the chart rows.				
Freezer Model	2" or 50 mm	3" or 75 mm	4" or 100 mm	Total Racks per Freezer	x	Boxes per Rack	=	Total # Boxes per Freezer
U101	K0641-3003			6	x	10	=	60
		K0641-3004				6		36
			K0641-3005			4		24
U360/U535	K0641-3000			9 / 12	x	28 28	=	252 336
		K0641-3001				20 20		180 240
			K0641-3002			12 12		108 144
U725	K0641-3000			18	x	28	=	504
		K0641-3001				20		360
			K0641-3002			12		216
C585	K0641-1690			32	x	13	=	416
		K0641-1700				9		288
			K0641-1750			6		192
C760	K0641-1690			44	x	13	=	572
		K0641-1700				9		396
			K0641-1750			6		264
U410	K0641-1900			15	x	16	=	240
		K0641-1890				12		180
			K0641-1880			8		120
U570	K0641-1900			25	x	16	=	400
		K0641-1890				12		300
			K0641-1880			8		200
C340	K0641-1690			20	x	13	=	260
		K0641-1700				9		180
			K0641-1750			6		120
C660	K0641-1690			40	x	13	=	520
		K0641-1700				9		360
			K0641-1750			6		240
Rack Capacity Per Shelf & Per Freezer								
Style	Model	Max. Racks Per Shelf		Max No. of Shelves		Max. Racks Per Freezer		
Upright	U101 Innova	3		2		6		
	U360 Innova	3		3		9		
	U535 Innova	4		3		12		
	U725 Innova	6		3		18		
	U410 Premium	3		5		15		
	U570 Premium	5		5		25		
Chest	C585 Innova	N/A		N/A		32		
	C760 Innova	N/A		N/A		44		
	C340 Premium	N/A		N/A		20		
	C660 Premium	N/A		N/A		40		
External Rack Dimensions (Depth x Width x Height)								
Style	Model	Inches			mm			
Upright	U101 Innova	12.13 x 5.55 x 11.52			308 x 141 x 292.5			
	U360, U535 & U725 Innova	22.24 x 5.55 x 16.16			565 x 141 x 410.5			
	U410 & U570 Premium	22.24 x 5.55 x 9.25			565 x 141 x 235			
Chest	ALL Models	5.35 x 5.47 x 29.61			136 x 139 x 752			