



Pure. Ultracold.

The Eppendorf Ultra-Low Temperature Freezer Family



»Design the freezer around the sample.«

After nearly 40 years, our freezer journey still continues. By combining the longevity and quality of our existing freezers with future-proven sample monitoring and management systems, we have designed a new icon for -86 °C ultra-low temperature freezers in the 700 L class, the green CryoCube® F740 freezer series. But that is just the beginning of the journey.



Concerned about your sample safety?

- > Temperature monitoring and data export for documentation*
- > Controlled access to samples for higher security*
- > Dedicated alarm and backup system for 24/7 sample safety

> See page 6 for more information

* CryoCube F740 »i« series models.



Suffering from energy bills?

- > High-efficiency insulation for low power consumption
- > Special gaskets on inner and outer doors to keep the cold inside
- > High-efficiency compressor systems provide excellent performance with minimized energy usage/carbon footprint

> See page 10 for more information



Lost in samples?

- > Broad range of metal racks for flexible vessel usage
- > Storage boxes that fit standard vessel sizes
- > Sample management system to keep your inventory in order

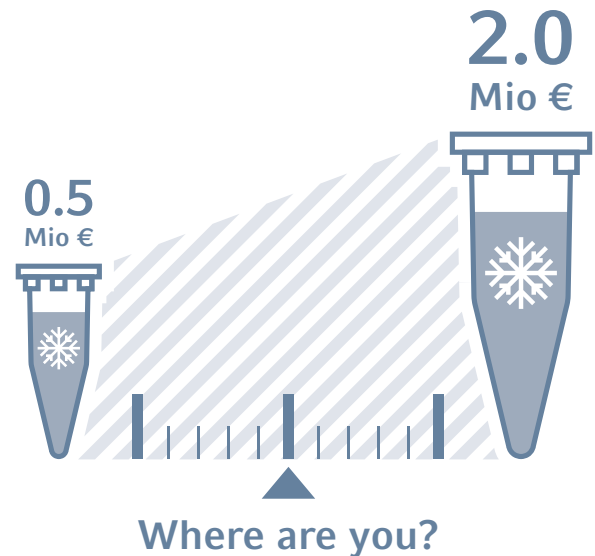
> See page 17 for more information

How Much Effort Did You Spend on Your Sample?

Did you ever calculate the value within your freezer? All the hours, days, weeks, and months spent on your samples? More than 50,000 samples fit into large, standard ULTs. The value of every single sample differs – from simple buffers to high-value cell extracts, expensive enzymes, or very rare sample material. Assuming an average value of 10 € per vial, the total value already reaches 500,000 €.

When predominantly storing high-value samples which are a result of months of work – you reach a value in your freezer far beyond half a million €.

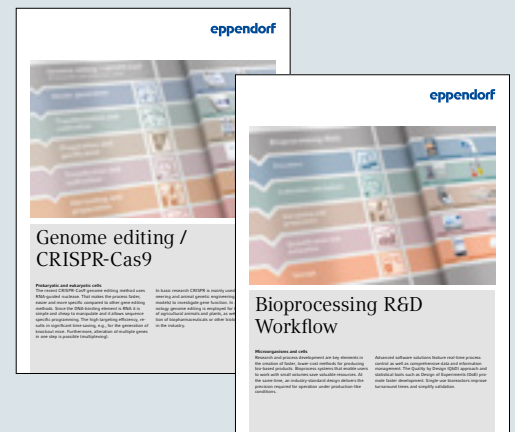
Your new ULT freezer is not limited to being a storage room for samples. This instrument is your assurance for long-term scientific success, it guards the results of your work.



Life Science Revolves Around the Sample

Your processes and workflows require you to invest a lot of time and a lot of resources. So much of your success depends on the care and handling of your valuable samples.

After spending countless hours considering the many devices and steps utilized to create the sample, have you adequately considered where you will store it? Does your long-term storage solution match the value of your processes and samples?



Remember the last time it happened?

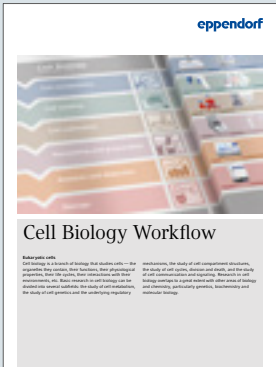
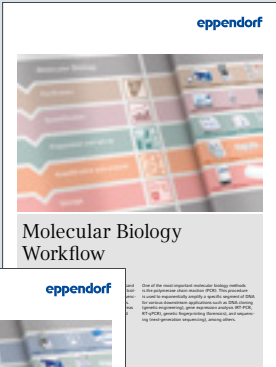
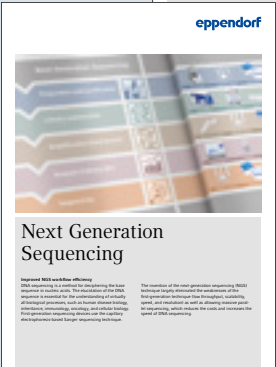
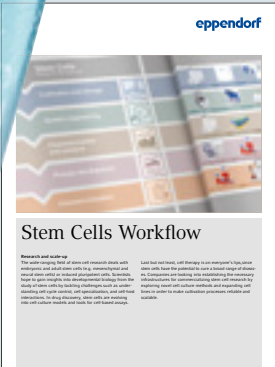
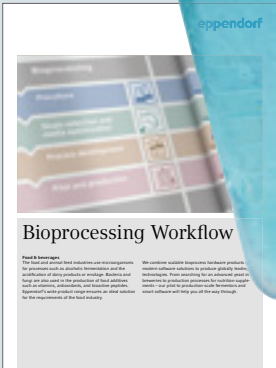
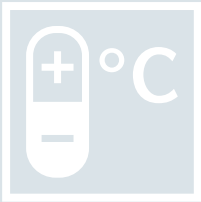
»...it was 2 a.m. when the guard called me: Sir, there is an alarm in your lab, you'd better come over...«

»...it's a nightmare, you enter the lab, the water is already dribbling down the freezer door, and you know – it's all gone...«

»...last summer our freezer failed, we lost 2 years of work and 650,000 €...«



After all this work, do you know where your samples are?





Complete Control

Worried about the safety of your high value samples within your ULT freezer? With the Eppendorf ULT monitoring concept available on CryoCube F740 "i" series models, you can check the freezer performance whenever you want. All temperature data and all events are stored in the freezer control unit.

Focus on the Essentials*

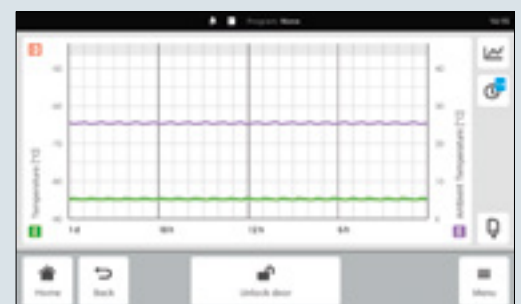
The handling experience is based on our PhysioCare Concept® combined with extensive user test sessions.

- > On-board data storage means you are not dependent on auxiliary and secondary devices to keep track of freezer data
- > Easily transfer your information to your computer or colleague using the export feature and front-mounted USB port
- > Quickly and easily adjust your setpoints with a single fingertip, even while wearing gloves
- > Conveniently see all your important settings and data on a single screen with customizable views
- > Event tracking for controlled environments
- > Electronic lock system tied to user management for controlled access and higher sample safety
- > Adaptable alarm settings for individual needs
- > VisioNize®-onboard devices: "i" series models

* CryoCube F740 "i" series models.



Quickly review your important parameters on the home screen*



Easily review your freezer history on the temperature monitoring screen*



Proper Placement

The built-in temperature probe detects the actual temperature within the freezer. Comparing this measured value with the set value, the instrument decides if an up or down adjustment is needed.

The positioning of this probe is crucial for accurate freezer uniformity and optimized operation. Improper placement by the manufacturer can lead to inefficient cycling and a gap between your setpoint and the actual temperature inside the freezer.

Eppendorf positions the probe in the middle of the ULT chamber to receive an average value of the temperature distribution. This helps prevent inaccuracy and inefficiency; it grants peace of mind knowing your setpoint is being maintained accurately.



High-quality temperature probe placed in the middle of the chamber for increased accuracy and sample safety



Trust in Confirmation

Technical parameters of new ULT freezers need to be validated. On-going checks during the development phase are performed inhouse, by standard. For the final test, we at Eppendorf believe in an independent, external counter-control.

- > External test house with highly trained engineers
- > 3 units of serial production level are sent over
- > Testing with defined and standardized conditions, e.g. specific room temperature, controlled humidity, validated & certificated testing instruments, and exact positioning of temperature probes
- > Documentation of all conditions and results
- > Test data are used for Eppendorf-published Performance Data Sheets

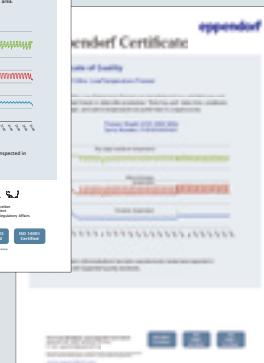
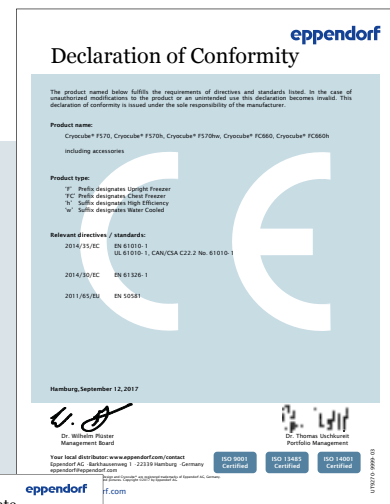




Confidence in Quality

Eppendorf has a long-standing history of innovation and quality, and our freezer manufacturing process is no exception. Each Eppendorf ULT freezer is thoroughly inspected to meet our rigorous quality guidelines. The final inspection takes more than 24 h and is based on manual and visual checks. This process is documented by an individual Certificate of Quality, complete with serial number, provided as standard for your documentation.

As your expert partner for reliable, high-quality, and efficient storage solutions, Eppendorf finely engineers each freezer with care, using only the highest quality materials to ensure a long lasting freezer that offers peace of mind and security. Eppendorf freezers are designed to offer a longterm value over the lifetime of its ownership. You can entrust your valuable samples to our ULT freezers, and you can trust your investment in all finely-engineered Eppendorf instruments.





Touch The Future

VisioNize® – The Connected Lab

Imagine you could use a smart network in your lab to manage your lab equipment efficiently, anytime and anywhere, with a single glance. Now you can — with VisioNize. Experience the new VisioNize user interface concept across the touch screen interfaces of VisioNize-onboard devices, as well as in the VisioNize software applications.

> Learn more at www.ependorf.com/VisioNize

Monitor

Software to monitor your lab equipment

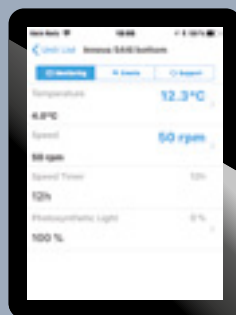
- > Get a 24/7 tracking report with detailed trends and event information
- > Receive information about alarms via e-mail notification



Notify

A mobile app for iOS® devices

- > Monitor your instruments at any time
- > See what's going on in the lab, wherever you are



Enable

An easy-to-install hardware hub

- > Connect your already installed freezers*
- > Manage further devices in your existing workflow*



* List of connectable devices available at www.ependorf.com/VisioNize

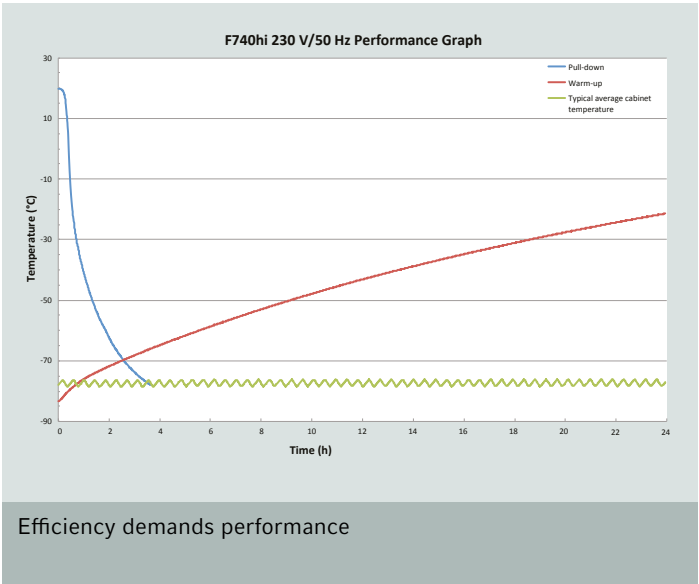
What Do You Need for Safe Sample Storage?

Pull-down time to -80 °C

After installation, as well as after de-frosting of the ULT freezer, the freezer needs to return to -80 °C as soon as possible. In general, a good ULT freezer needs just 4 to 5 hours to pull-down from room temperature to -80 °C, saving precious time and protecting your samples. Backup freezers are required to be ready in the shortest time possible. Based on the fast pull-down times of Eppendorf ULT freezers, backup freezers do not need to run all the time. They are ready within a short time frame. In addition, the samples within the broken unit are safe as the insulation quality supports a very slow warm-up.

Warm-up time

In cases of power failure or device break-down, the freezer insulation and the door seals are your last lines of defense against losing your valuable samples. Eppendorf ULT freezers can maintain temperatures of -50 °C or colder within your freezer for at least 8 – 10 hours. Enough time to organize a new safe location for your samples. You do not need to hit your lab at 3 a.m..



Sample integrity after door opening

How often do you open the ULT freezer door per day? For how long? It is best practice to always open and close the freezer as quickly as possible when storing new samples or attempting to locate a sample which is stored out of sight. However, this takes time.

The more time it takes, the more the temperature of both the cabinet and your frozen samples increases. The longer the door remains open, the longer it takes for the freezer to regain the set temperature. 30 to 60 seconds is a realistic time frame to add a new sample or remove a stored one. The Door open recovery time (DOR) is the time needed to be back at -80 °C.

Door Open Recovery Time (Freezer set to -80 °C)
to be back at -80 °C

	Door opening 15 seconds	Door opening 30 seconds	Door opening 60 seconds
CryoCube F570h, 230 V/ 50 Hz	15 min	21 min	31 min
CryoCube F740hi, 230 V/ 50 Hz	18 min	25 min	27 min

Safety that exceeds expectations

Besides freezer monitoring and high performance, some background safety is mandatory:

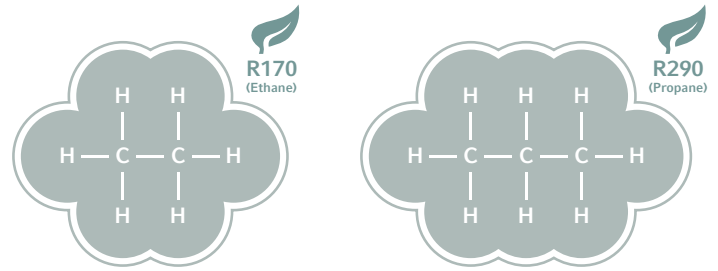
- > Secured power plug for performance safety
- > Key-lock for power switch & battery switch to avoid accidental power-off
- > Battery for alarms after power failure
- > CryoCube F740 series has a built-in voltage inverter for 100 V, 115 V, 208 V, and 230 V for high flexibility
- > Up to three different interfaces (Ethernet, RS485, BMS) for flexible connections



Cool, Cooler, Green

The coolant or cooling liquid within a ULT freezer is used to reduce and to regulate the temperature. To reduce global warming, there is a clear tendency towards reducing classic cooling liquids as R508B and R404A.

The green or natural gases (e.g. R170, R290) are future-proof and have a very low Global Warming Potential (GWP). This is also supported by European Union Regulation (EU_517/2014).



Green cooling liquids = HC gases = Natural gases = Future-Proof

Hydrocarbon cooling by Eppendorf



Remember 2008?

As one of the very first adopters of green gases at -86 °C, Eppendorf now has 10 years of experience in R&D, production, logistics, and service in the field.

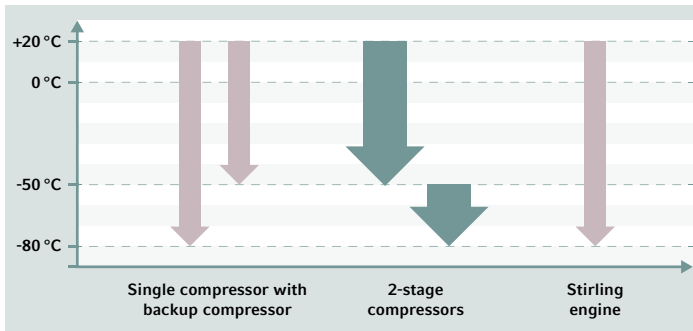
Safety assessment for green gases:

Based on IEC 60335-2-89, there are no additional required safety instructions for using natural gases in ULT freezers as long as the cooling liquid loops are hermetically sealed and the amount per cooling liquid is limited to 150 g. All Eppendorf ULT freezers using green gases fulfill these conditions for safe usage.

The core of cooling – the compressors

Like all major suppliers of ULT freezers, Eppendorf trusts in 2-stage compressor systems. Within this 2-stage or 2-loop systems, the chamber is cooled down to -45 °C in the first stage and then, during the second stage, cooled down from -45 °C to -86 °C. This enables smooth and reliable operation of the individual compressors as they work in a comfort zone.

When using just one compressor, or even a Stirling engine, to cool down from +20 °C room temperature to -86 °C, more than 100 °C must be spanned in a single step. The 2-stage system is a more durable approach, supported in Eppendorf ULTs by high-value compressors from a benchmark supplier.



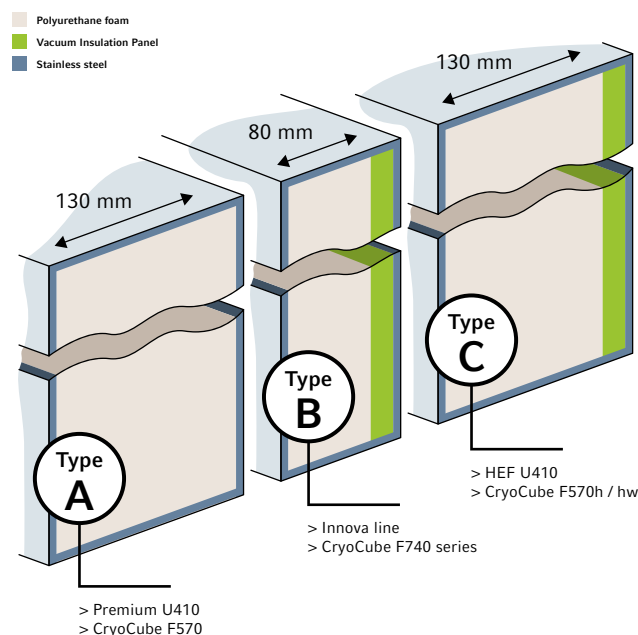
Paying Your Own Power Bill?

Even environmentally-friendly and energy-efficient ULT freezers still consume a significant amount of energy 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 Eppendorf ULT freezers are designed to help you save energy and reduce your carbon footprint without compromising sample security.

Factors influencing the energy consumption

- > Thickness of insulation
- > Type of insulation
- > Type of cooling liquid
- > Efficiency of compressors
- > Control of compressors
- > Pressure in the cooling system
- > Style of cooling loops (diameter, length, density, etc.)
- > Seals of outer door
- > Seals of inner doors
- > Insulation of outer door
- > Insulation of inner doors

Eppendorf ULT freezer wall concepts



Eppendorf offers three varieties of insulation design. You can choose the design that meets your energy-saving, capacity, and cost parameters.

Keep the Cold Inside



Protect your insulation:

Displays are attached on top of insulated outer door – no heat input & no reduction of insulation



Keep the cold inside:

Efficient flat and flexible seal at outer door

Easy maintenance:

Flat seals can be quickly and easily wiped and cleaned



Double your safety:

Gaskets on insulated inner doors come standard to reduce air leakage



High capacity & low thermal conductivity:

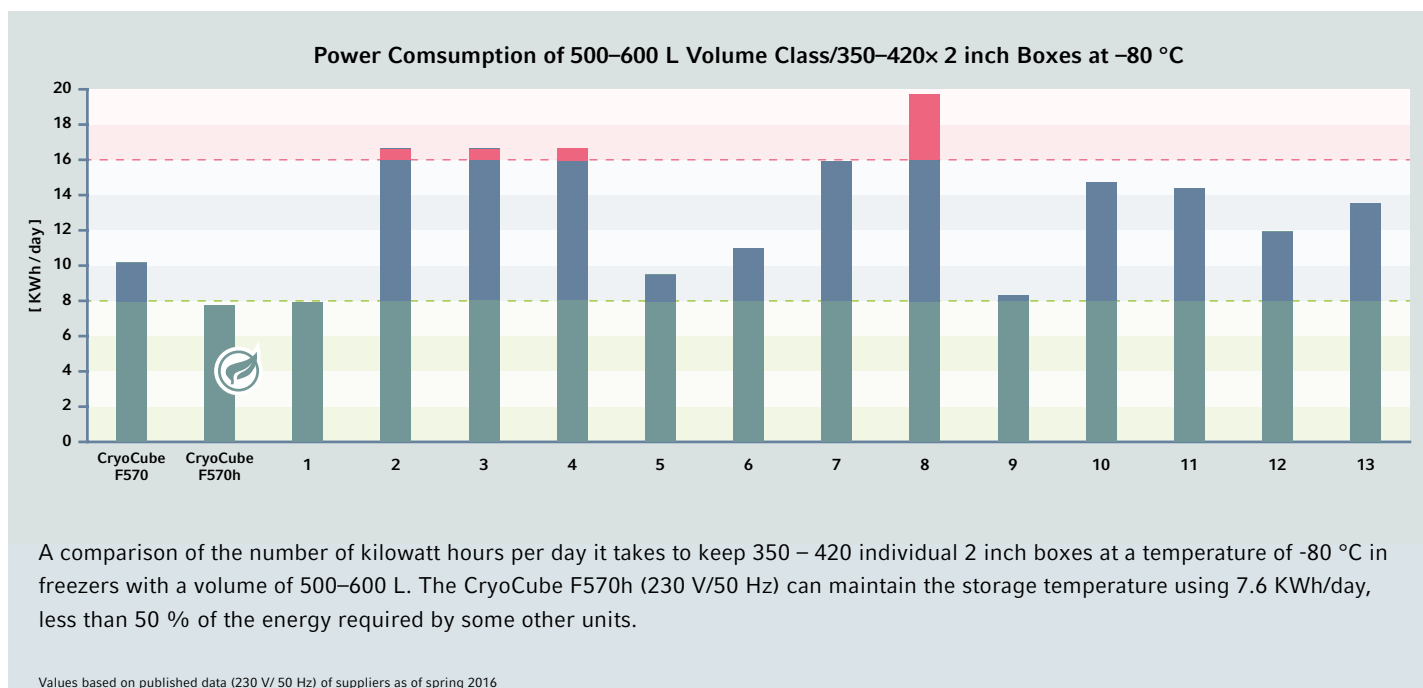
Vacuum Insulation Panels provide significantly better insulation than polyurethane foam, increased capacity, as well as longterm stability

Our Part for Sustainability

- > Production moved into new facilities with state-of-the-art insulation to save on heating energy and power
- > Heat output during final individual unit testing discharges into the building heating system
- > Plastic and cardboard compactors introduced in concert waste rebate system in place
- > Compliance with local requirements for waste management (collection of electronic waste like circuit boards, recycling via authorized recycling organizations) and internal guidelines
- > Public transport system with several lines available at current location
- > Usage of green cooling liquids in Eppendorf ULT freezers since 2008
- > Green insulation foam production
- > Packaging parts have increasing share of recycled origin
- > Packaging is 100% recyclable
- > ENERGY STAR® partner
- > Marketing material is printed on FSC-certified paper with a focus on electronic mediums whenever possible
- > Shipment by cargo ship to reduce CO₂ footprint
- > Long lifetime of ULT freezers



Power Consumption





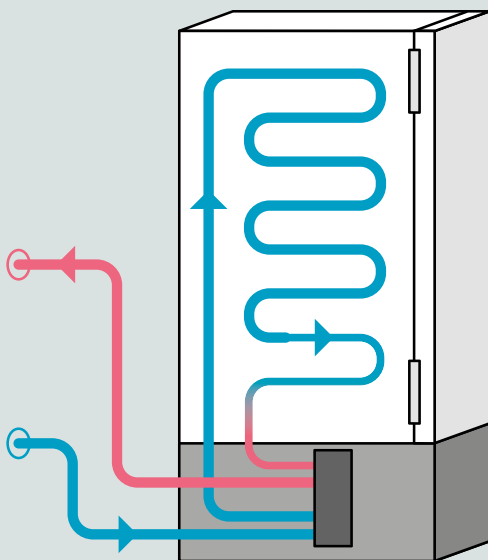
Footprint versus efficiency

Energy-wise, chest freezers are the most economical type of freezers. Since they have sidewall insulation and are opened from the top, chest freezers can maintain their cold temperatures very well. Opening from the top reduces energy consumption per volume, especially when opening and closing the outer door of the unit on a regular basis. Less energy is lost when opening the outer door of a chest freezer than of an upright freezer as no cold can literally fall out of the freezer.

A far lower but more long-term loss of cold air is the door gasket – which is always the weakest point of a ULT freezer's insulation. As chest freezers have no vertical opening, no cold can leave the freezer via the gaskets as in an upright freezer.

However, a chest model has a much bigger footprint than an upright freezer. Transport into the building and within the building itself is more complicated for a chest freezer. Its racks (so-called "tower racks") need to be lifted up whenever you need to get a sample out of the freezer.

Air-Conditioning At the Limit? Go For Water-Cooling



You can improve the conditions and comfort in your lab while saving energy by installing a water-cooled Eppendorf freezer. Many ULT freezers use the air in the laboratory to extract heat energy from the freezer's heat exchanger. Another option is to use a water-cooled ULT freezer connected to a facility's recirculating water system. A constant stream of water removes the heat from the heat exchanger, rather than the ambient air in the lab.

- > Reduce air conditioning power consumption by letting the water carry away the heat
- > The heated cooling water can be reused for other heat demanding systems in the facility
- > System specifications:
 - Minimum flow: 29 L/h
 - Inlet pressure: 1 – 10 bar
 - Temperature range of water: 7 °C to 25 °C

Eppendorf PhysioCare Concept®

The ideal Eppendorf product fulfilling the PhysioCare concept provides a comprehensive approach for the user. Starting with an ergonomic design of the product itself (e.g. smooth shape, low weight, low needed forces, intuitive user interface, etc.), fitting into an ergonomic work space, and supporting an optimal workflow within the lab.



Sphere 1 – The User

Addressing the direct interaction between you and the product. Ergonomic design and product alignment optimized to the needs of the individual.

Sphere 2 - The Lab

Addressing the interaction at your workspace, resulting in ease and comfort within your workflow.

Sphere 3 - The Laboratory Workflow

General support to enhance processes around the lab and the whole company or institute.



Ergonomics? For a freezer?

Easy-to-clean:
Stainless steel interior



Enjoy opening:
Redesigned handle for easy handling, with a lock for access control¹²



Smart collection:
All cable interfaces located at one corner and 3x alarm connections for convenient access^{*2}



Be comfortable:
Eye-level automated vent-port for easy re-access with eye-level display & USB-port^{*1}



Easy access to filter:
Just flip down the cover to clean or replace^{*1}



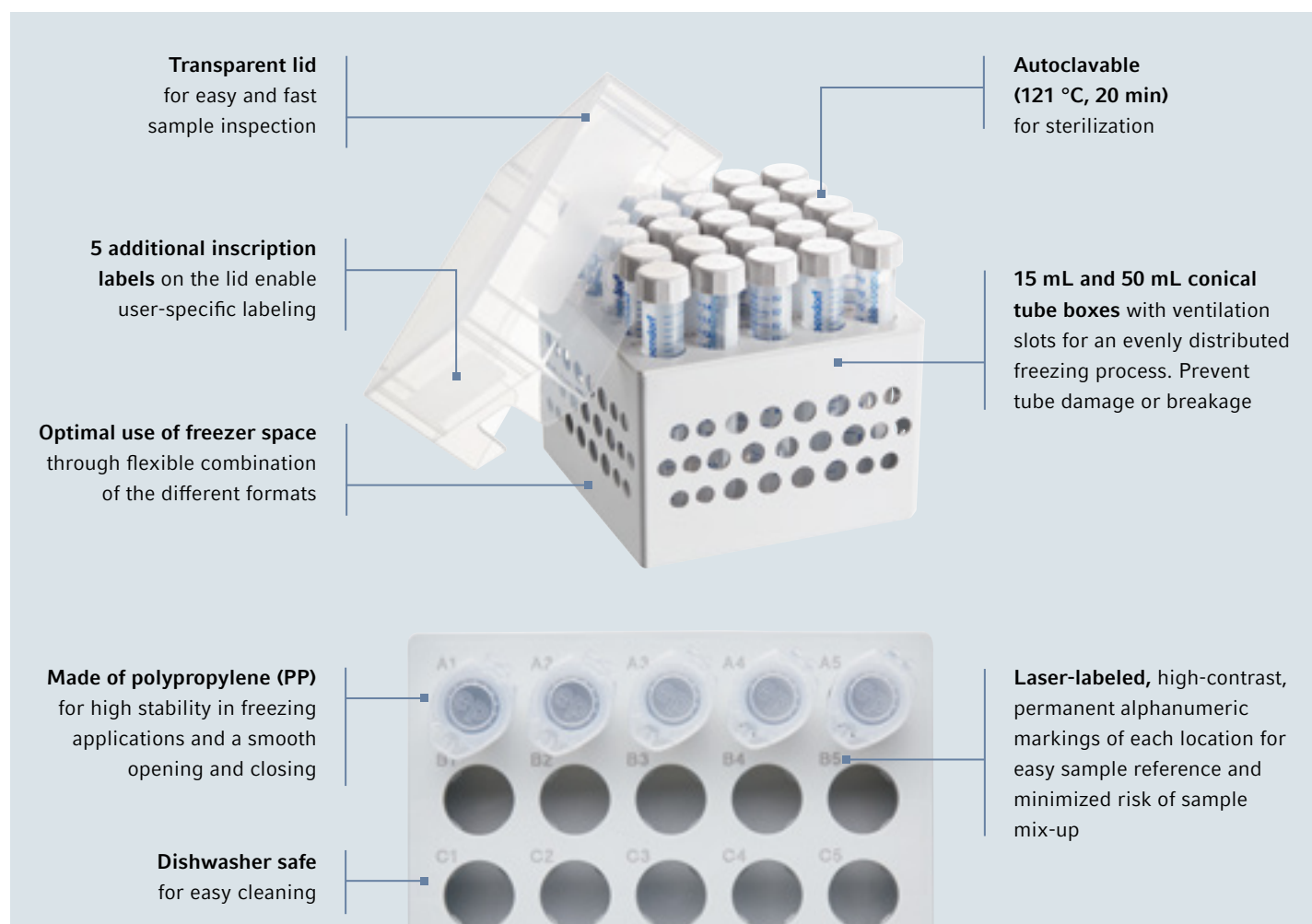
Convenient working environment:
Low noise level^{*2}



Model	Noise level (dB)A
F740h	47.8
F740 "i" series models	41.3

In Need of Housekeeping?

The Eppendorf Storage Boxes are a complete system solution for sample storage. The comprehensive modular concept allows you to select the optimal box combinations for individual storage demands. The outer footprint dimensions (133 mm) are compatible with common freezer rack systems and the different inner grid variants provide a perfect fit for all typical tube formats: cryogenic tubes, microcentrifuge tubes, conical tubes 15 and 50 mL, and other laboratory vessels. Optimize your storage and archiving of samples.



> Additional information, details on dimensions, and order numbers available at:
www.eppendorf.com/storageboxes

Burdened by Unsorted Boxes Cluttering Your Freezer?

Make your scientific life easier: store your freezer storage boxes within organized freezer racks. These metal racks optimize your freezer space and make it easy to find the items you desire. Don't waste time sifting through unsorted samples.

Drawer or side access

There are two rack styles available to make your freezer usage the most efficient. When using racks with drawers, only the relevant drawer with the freezer boxes of interest is pulled-out. All other boxes safely stay in the cold interior of the ULT freezer. Eppendorf drawers are engineered to deliver smooth movement at -80 °C for ergonomic handling. When using side access racks, accessing samples means removing a good portion of the storage boxes from the cold interior of the ULT freezer. The side access rack must be completely removed for sample access. Racks for chest freezers can be equipped with locking rods to secure freezer boxes when lifting the rack tower.

Sample storage rack selection

Though you often only hear about the safety of your samples, the method of sample storage and organization can be just as important. To select the right set of racks for optimal usage of your freezer, we advise you to consider a few questions:

1. What type of freezer do you need to equip?
2. Do you prefer stainless steel or aluminum racks?
3. Do you need drawer or side access?
4. What type of vessels do you use?
5. How can you organize your freezer in an easy and logical way?



Freedom to store: Stainless steel racks for freezer boxes of up to 136 x 136 mm footprint

Stainless steel or aluminum

By standard, there are two types of rack materials available:

Stainless steel:

- > Stable and robust for longevity and higher capacity
- > Fit freezer boxes with footprint up to 136 x 136 mm for high flexibility
- > Optimized cooling conditions by special design for improved sample safety

Aluminum:

- > For freezer boxes up to 133 x 133 mm footprint
- > Non-corrosive anodized aluminum for long-term use

- A.** Stainless steel drawer rack
- B.** Stainless steel side access rack
- C.** Stainless steel rack for chest freezer
- D.** Stainless steel rack for chest freezer with locking rod



> Please check the rack brochure for easy rack selection or use the rack configuration tool at: <https://econfig.bio-itech.de>



Lost in Samples? Stay Organized!

Over many years, scientists collect hundreds and thousands of samples – samples that are the results of years of hard work – samples of high value. When storing these, it is vital to keep them safe and accessible. Accurate sample labeling and proper storage in freezer boxes is only the beginning, you still need to maintain accurate records of the treasures in your freezer. Many scientists still use spreadsheets or even paper-based lists to keep track of their storage. While these solutions may work most of the time, they are susceptible to human error, damage, and misplacement.



Make science easier, make your life easier

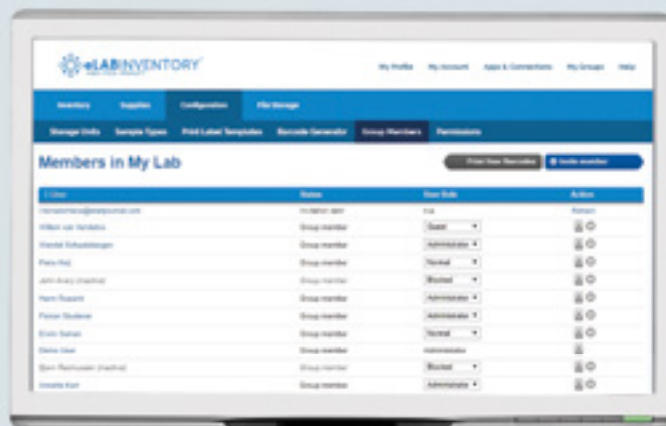
Following the PhysioCare Concept, we recommend to use an intuitive, reliable sample management tool. Take advantage of modern solutions to make the lab experience more comfortable and more efficient.

eLABInventory

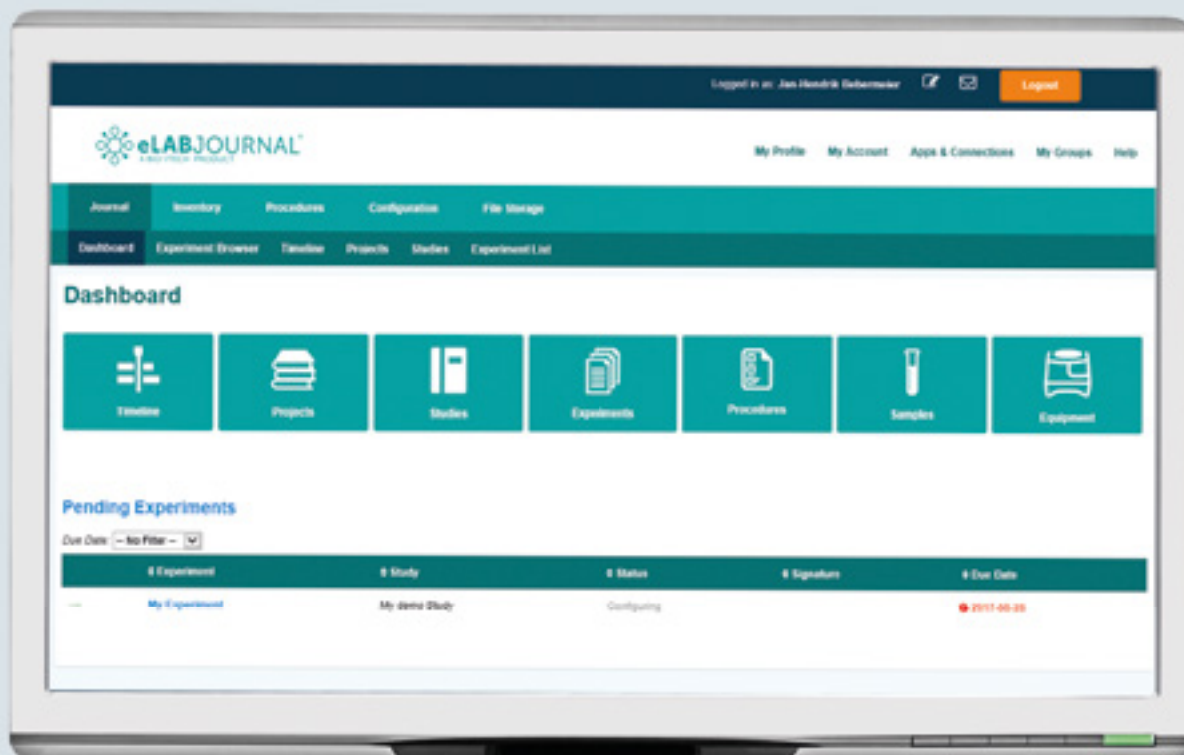
Keep track of your samples with eLABInventory

eLABInventory is a sample management software provided by Bio-ITech, an Eppendorf company. The tool organizes any item in the laboratory inventory, including specimens, materials, samples, and chemicals. Store samples in self-configured storage units such as freezers or refrigerators. eLABInventory is flexible and fully configurable to work in your laboratory.

- > Fully configurable to fit any type of laboratory
- > Stores any type of samples, specimens, and materials for high flexibility
- > Works on any device, delivered via the cloud or on-site
- > Intuitive user interface includes visual inventory browsing for easy handling
- > Barcode labeling and scanning for high-throughput
- > Import/export to other formats for data flexibility
- > Track and tracing for audit trail
- > GLP compliant sample management software
- > 21 CFR part 11 compliance for documentation security



> For more information about ordering, visit:
www.eLABInventory.com



eLABJournal®

Improve your efficiency when documenting research and tracking research data with eLABJournal

The eLABJournal Electronic Lab Notebook offers an intuitive and flexible solution to document research and track research data. It improves efficiency when documenting, organizing, searching, and archiving collected data. With the free eLABJournal add-ons, you can extend the functionality of eLABJournal to a fully integrated Laboratory Information Management System. Designed by scientists for scientists

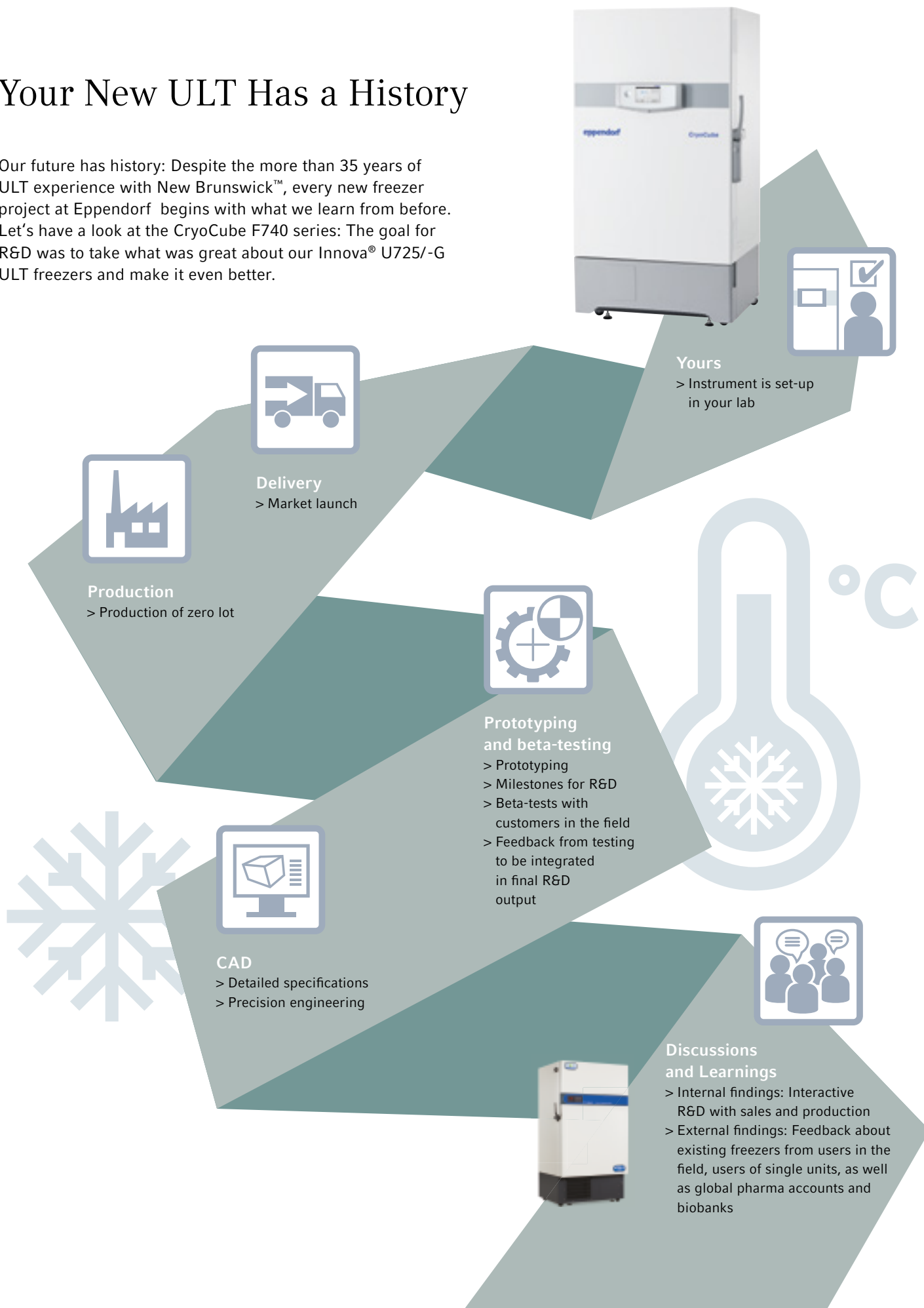
- > Easily set up and apply workflows for lab routines using experiment templates
- > Use protocols as a template for your experiments and easily adjust the protocol according to your experiment settings using dynamic fields
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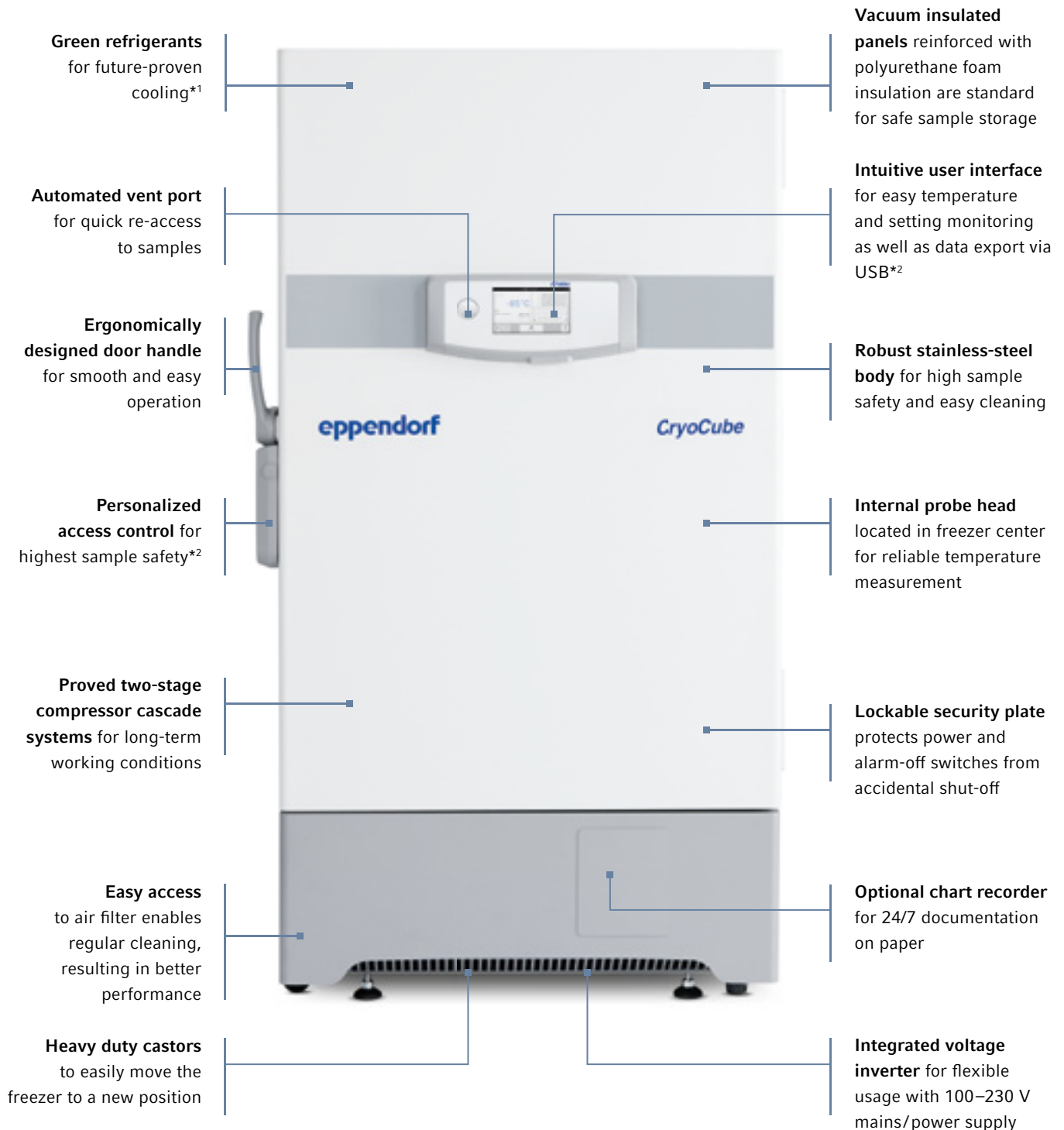


Your New ULT Has a History

Our future has history: Despite the more than 35 years of ULT experience with New Brunswick™, every new freezer project at Eppendorf begins with what we learn from before. Let's have a look at the CryoCube F740 series: The goal for R&D was to take what was great about our Innova® U725/-G ULT freezers and make it even better.



Eppendorf CryoCube® F740hi



*¹ Available on "h" series models.

*² Available on "i" series models.



> **Ergonomic entry:** Comfortable door handle for easy opening with a mechanical lock



> **Ergonomic entry:** Comfortable door handle for easy opening
> **Controlled access:** Personalized electronic access codes^{*2}, when necessary

Classic Dimensions, Modern Details



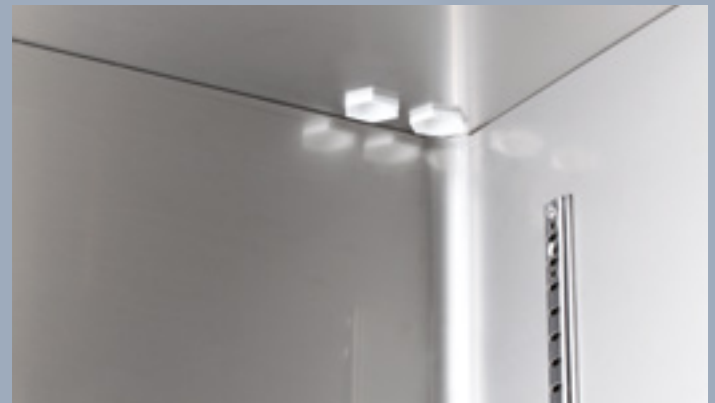
> **Get the maximum in:** 3-compartment set-ups with MAX racks use every empty spot^{*1}



> **Easy access:** Quickly open the bottom-mounted air filter for easy cleaning and maintenance^{*1}
> **Simple solution:** No tools required to access the filter



> **Enhanced shelf design:** Integrated airways for fast and consistent air Circulation^{*1}
> **Keep your fingers safe:** Rounded metal rims at shelves



> **External probes or back-ups:** Two access ports in the upper corner
> **Easy cleaning:** Stainless steel inner chamber

^{*1} Available on CryoCube F740 series models.

^{*2} Available on CryoCube F740 "i" series models.

^{*3} Available on CryoCube series models.



> **Concentrate on the essentials:** Easy settings



> **If you are in a hurry:** Automatic vent port enables fast sample access^{*3}



> **Decide what you need:** 3-compartment/shelves or 5-compartment/shelves^{*1}



> **Twins except the door handle^{*1}:** Decide what fits best in your lab, a left-handed door handle or a right-handed door handle



> **Make life easier:** Inner doors can easily be removed for full access to compartments during cleaning of freezer



> **If you prefer privacy:** The Innova U101 – a real ULT freezer in one small package below the bench



Model	CryoCube® F740hi, 3 c./ CryoCube® F740hi, 5 c.	CryoCube® F740hiw, 3 c./ CryoCube® F740hiw, 5 c.	CryoCube® F740h, 3 c./ CryoCube® F740h, 5 c.
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type B	Type B
Capacity	740 L	740 L	740 L
No. of internal doors	3	3	3
No. of compartments	3/5	3/5	3/5
Max. racks per freezer	18/30	18/30	18/30
Box capacity per rack			
5 cm (2 in) tall boxes	32/16	32/16	32/16
7.5 cm (3 in) tall boxes	20/8	20/8	20/8
10 cm (4 in) tall boxes	12	12	12
Box capacity per freezer			
5 cm (2 in) tall boxes	576/528	576/528	576/528
7.5 cm (3 in) tall boxes	360/288	360/288	360/288
10 cm (4 in) tall boxes	288/264	288/264	288/264
Sample capacity			
5 cm (2 in) tall boxes	57,600/52,800	57,600/52,800	57,600/52,800
Dimensions (W × D × H) ¹⁾²⁾³⁾	109.9 × 98 × 197.3 cm	109.9 × 98 × 197.3 cm	109.9 × 91.5 × 197.3 cm
Dimensions internal (W × D × H)	86.5 × 62.1 × 139 cm	86.5 × 62.1 × 139 cm	86.5 × 62.1 × 139 cm
Weight w/o accessories	315 kg/333 kg	320 kg/328 kg	308 kg/317 kg
Shipping weight	364 kg/382 kg	369 kg/377 kg	357 kg/ 366 kg
Pull-down time to -80 °C (230 V) ⁴⁾	4 h 10 min	4 h 10 min	4 h 10 min
Noise level	41.3 dB	41.3 dB	47.8 dB
Heat output (230 V)	438 W	442 W	492 W
Power supply	230 V, 50 Hz	230 V, 50 Hz	100 – 230 V, 50/60 Hz
Power consumption	10.5 KWh/day	10.6 KWh/h	11.8 KWh/day
Eppendorf freezer (230/115 V) ⁵⁾	11.6 kWh/day	11.7 kWh/day	13.0 kWh/day
Max. power consumption per 5 cm box (230 V) ⁵⁾	18 Wh/day/20 Wh/day	18 Wh/day/20 Wh/day	20 Wh/day/22 Wh/day
Interior	Stainless steel	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes	yes
Extras	Automatic vent port	Automatic vent port	Automatic vent port
Cooling liquid	R290 / R170	R290 / R170	R290 / R170

¹⁾ Optional CO₂/LN₂ backup systems add 8.65 cm/3.5 in to height.

²⁾ To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.

³⁾ Door open adds up to 15 cm.

⁴⁾ Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.

⁵⁾ Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.



> For more information go to www.eppendorf.com/freezers



CryoCube® F570h	CryoCube® F570hw	CryoCube® F570
Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam	Polyurethane foam
Type C	Type C	Type A
570 L	570 L	570 L
5	5	5
5	5	5
25	25	25
16	16	16
8	8	8
8	8	8
400	400	400
200	200	200
200	200	200
40,000	40,000	40,000
102.5 × 85.2 × 194 cm	102.5 × 85.2 × 194.0 cm	102.5 × 85.2 × 194 cm
76.5 × 57.5 × 126.5 cm	76.5 × 57.5 × 126.5 cm	76.5 × 57.5 × 126.5 cm
296 kg	296 kg	270 kg
341 kg	341 kg	315 kg
3 h 30 min	3 h 45 min	4 h
59.1 dB	56.0 dBA	59.5 dB
316 W	325 W	438 W
230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
7.6 KWh/day	7.8 KWh/day	10.5 KWh/day
9.4 KWh/day	–	12.0 KWh/day
19 Wh/day	19 Wh/day	26 Wh/day
Stainless steel	Stainless steel	Stainless steel
yes	yes	yes
Automatic vent port	Automatic vent port, water-cooled	Automatic vent port
R290 / R170	R290 / R170	R404A / R508B





Model	Innova® U535	HEF® U410
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type C
Capacity	535 L	410 L
No. of internal doors	3	5
No. of compartments	3	5
Max. racks per freezer	12	15
Box capacity per rack		
5 cm (2 in) tall boxes	28	16
7.5 cm (3 in) tall boxes	20	8
10 cm (4 in) tall boxes	12	8
Box capacity per freezer		
5 cm (2 in) tall boxes	336	240
7.5 cm (3 in) tall boxes	240	120
10 cm (4 in) tall boxes	144	120
Sample capacity		
5 cm (2 in) tall boxes	33,600	24,000
Dimensions (W × D × H) ¹⁾²⁾³⁾	80 × 86.7 × 195 cm	80 × 85.2 × 193.0 cm
Dimensions internal (W × D × H)	64 × 61.5 × 136.5 cm	55 × 57.5 × 126.5 cm
Weight w/o accessories	250 kg	262 kg
Shipping weight	296 kg	307 kg
Pull-down time to -80 °C (230 V) ⁴⁾	4 h	3 h 30 min
Noise level	56 dBA	53 dBA
Heat output (230 V)	550 W	350 W
Power supply	230 V, 50 Hz	230 V, 50 Hz
Power consumption	13.2 KWh/day	8.4 KWh/day
Eppendorf freezer (230/115 V) ⁵⁾	13.2 KWh/day	8.6 KWh/day
Max. power consumption per 5 cm box (230 V) ⁵⁾	39 Wh/day	35 Wh/day
Interior	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes
Extras	–	–
Cooling liquid	R404A / R508B	R290 / R170

¹⁾ Optional CO₂/LN₂ backup systems add 8.65 cm/3.5 in to height.

²⁾ To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.

³⁾ Door open adds up to 15 cm.

⁴⁾ Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.

⁵⁾ Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.



> For more information go to www.eppendorf.com/freezers



Premium U410	Innova® U360	Innova® U101
Polyurethane foam	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Type A	Type B	Type B
410 L	360 L	101 L
5	3	2
5	3	2
15	9	6
16	28	10
8	20	6
8	12	4
240	252	60
120	180	36
120	108	24
24,000	25,200	6,000
80 × 85.2 × 193 cm	67 × 86.7 × 195 cm	90 × 56.6 × 83 cm
55 × 57.5 × 126.5 cm	44 × 61.5 × 136.5 cm	48 × 33 × 64 cm /
235 kg	230 kg	116 kg
280 kg	266 kg	141 kg
4 h 30 min	5 h 30 min	3 h
55 dB	56 dBA	55 dBA
650 W	445 W	310 W
230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
10.8 KWh/day	10.7 KWh/day	7.4 KWh/day
13.0 KWh/day	11.7 KWh/day	7.2 KWh/day
45 Wh/day	42 Wh/day	123 Wh/day
Stainless steel	Stainless steel	Stainless steel
yes	yes	yes
–	–	Stackable, fits below bench
R404A / R508B	R404A / R508B	R404A / R508B





Model	Innova® C760	CryoCube® FC660h
Insulation	Vacuum insulation paneling / polyurethane foam	Vacuum insulation paneling / polyurethane foam
Wall Thickness	Type B	Type C
Capacity	760 L	660 L
No. of internal doors		
No. of compartments	N/A	N/A
Max. racks per freezer	40	40
Box capacity per rack		
5 cm (2 in) tall boxes	14	13
7.5 cm (3 in) tall boxes	9	9
10 cm (4 in) tall boxes	5	5
Box capacity per freezer		
5 cm (2 in) tall boxes	560	520
7.5 cm (3 in) tall boxes	360	360
10 cm (4 in) tall boxes	280	280
Sample capacity		
5 cm (2 in) tall boxes	56,000	52,000
Dimensions (W x D x H) ¹⁾²⁾³⁾	205 x 82.5 x 109.2 cm	207 x 84 x 107.5 cm
Dimensions internal (W x D x H)	156 x 62.5 x 78 cm	147 x 59 x 76 cm
Weight w/o accessories	285 kg	304 kg
Shipping weight	358 kg	379 kg
Pull-down time to -80 °C (230 V) ⁴⁾	3 h	2 h 50 min
Noise level	58 dBA	58.3 dBA
Heat output (230 V)	667 W	338 W
Power supply	230 V, 50 Hz	230 V, 50 Hz
Power consumption	16.0 KWh/day	8.1 KWh/day
Eppendorf freezer (230/115 V) ⁵⁾	–	–
Max. power consumption per 5 cm box (230 V) ⁵⁾	28 Wh/day	16 Wh/day
Interior	Stainless steel	Stainless steel
Password protection of setpoints	yes	yes
Extras	30 mm thick inner lids for temp uniformity	30 mm thick inner lids for temp uniformity
Cooling liquid	R404A / R508B	R290 / R170

¹⁾ Optional CO₂/LN₂ backup systems add 8.65 cm/3.5 in to height.

²⁾ To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers.

³⁾ Door open adds up to 15 cm.

⁴⁾ Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions.

⁵⁾ Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.



> For more information go to www.eppendorf.com/freezers

**CryoCube® FC660**

Polyurethane foam

Type A

660 L

N/A

40

13

9

5

520

360

280

52,000

207 × 84 × 107.5 cm

147 × 59 × 76 cm

280 kg

328 kg

3 h 15 min

58.9 dBA

440 W

230 V, 50 Hz

10 KWh/day

–

20 Wh/day

Stainless steel

yes

30 mm thick inner lids for temp uniformity

R404A / R508B

Innova® C585Vacuum insulation paneling /
polyurethane foam

Type B

585 L

N/A

32

14

9

5

448

288

224

44,800

169 × 82.5 × 109.2 cm

120 × 62.5 × 78 cm

240 kg

310 kg

4 h

56 dBA

567 W

230 V, 50 Hz

13 KWh/day

–

30 Wh/day

Stainless steel

yes

30 mm thick inner lids for temp uniformity

R404A / R508B



Freezer Ordering information

Model	Right or Left Door Handle	Inner Compartments	Voltage*	Order No.
CryoCube® F740h	 Left	5	115 V	F740540035**
			208 V	F740540035**
			230 V	F740340031
	 Right	3	115 V	F740540015**
			208 V	F740540015**
			230 V	F740340011
		5	115 V	F740540045**
			208 V	F740540045**
			230 V	F740340041
CryoCube® F740hi	 Left	5	115 V	F740220035
			208 V	F740420035
			230 V	F740320031
	 Right	3	115 V	F740220015
			208 V	F740420015
			230 V	F740320011
		5	115 V	F740220045
			208 V	F740420045
			230 V	F740320041
CryoCube® F740hiw, Water-cooled	 Left	5	115 V	F740220135
			208 V	F740420135
			230 V	F740320131
		3	115 V	F740220115
			208 V	F740420115
			230 V	F740320111
CryoCube® F570	 Left	5	115 V	F570200005
			208 V	F570400005
			230 V	F570300001
CryoCube® F570h	 Left	5	115 V	F570220005
			230 V	F570320001
CryoCube® F570hw, Water-cooled	 Left	5	230 V	F570320101

*230 V are 50–60 Hz with European (Schuko) plug, further plug versions available

**CryoCube F740h (115/208 V): Equipped with both cables by standard

Freezer Ordering information

Model		Right or Left Door Handle	Inner Compartments	Voltage*	Order No.
Innova® U535		Left	3	115 V	U9430-0000
				208 V	U9430-0002
				230 V	U9430-0001
HEF® U410		Left	5	115 V	U9260-0007
				230 V	U9260-0008
Premium U410		Left	5	115 V	U9260-0000
				208 V	U9260-0002
				230 V	U9260-0001
Innova® U360		Left	3	115 V	U9425-0000
				230 V	U9425-0001
Innova® U101		Left	2	115 V	U9420-0000
				230 V	U9420-0001
Innova® C585		–	–	115 V	U9400-0000
				208 V	U9400-0002
				230 V	U9400-0001
CryoCube® FC660h		–	–	208 V	F660420005
				230 V	F660320001
CryoCube® FC660		–	–	208 V	F660400005
				230 V	F660300001
Innova® C760		–	–	208 V	U9410-0002
				230 V	U9410-0001

*230 V are 50-60 Hz with European (Schuko) plug, further plug versions available



Eppendorf Handling Solutions

Liquid Handling
Cell Handling
Sample Handling

To make your job in the lab easier and more efficient – with this goal in mind we are developing products and solutions in the areas of Liquid Handling, Cell Handling, and Sample Handling. Visit the Eppendorf Handling Solutions online sphere and dive into the area of your choice, learn new things, and have fun as well: www.eppendorf.com/handling-solutions



Sample Handling



Eppendorf products set standards in a wide variety of laboratory areas at an early stage – standards that still serve as yardsticks for others today. Sample Handling encompasses many different work processes and steps: centrifugation, heating, freezing, mixing, amplification, and analysis of samples. Eppendorf offers the devices and consumables needed for each of these steps and allows users to feel assured that the work they perform is of the highest quality.



■ Eppendorf Tubes® 5.0 mL

Eppendorf Tubes 5.0 mL fill the gap between existing tube formats and enable the simple and safe processing of volumes up to 5.0 mL.

- > Ergonomic operation with snap cap or screw cap
- > Exceptionally high-quality, transparent polypropylene



■ Eppendorf Conical Tubes

The Eppendorf Conical Tubes 15 mL and 50 mL extend the volume range of Eppendorf microcentrifuge tubes.

- > Convenient and safe cell culture applications
- > Sample preparation in microbiology and molecular biology labs



■ Eppendorf Deepwell Plates

High-performance plates for all manual and automated applications from sample storage at -86 °C to DNA denaturation at 100 °C.

- > OptiTrack® matrix for up to 30 % faster sample identification
- > RecoverMax® well design for maximum sample recovery and excellent mixing



■ Eppendorf BioSpectrometer® basic

The Eppendorf BioSpectrometer basic is a compact spectrophotometer that combines easy handling with highly reproducible analysis.

- > Absorbance measurement for one or more wavelengths; scans from 200 nm to 830 nm
- > Spectral graph to display sample purity with automatic ratio calculation

Know how to care for your centrifuge?

Find out helpful tips on
handling-solutions.eppendorf.com





eLABInventory

- > Stores any type of samples, specimens, and materials for high flexibility
- > Intuitive user interface includes visual inventory browsing for easy handling
- > Barcode labeling and scanning for high-throughput
- > Fully customizable data records for samples, storage locations, and equipment
- > Import/export to other formats for data flexibility
- > 21 CFR part 11 compliant for documentation security

Ordering Information

Description	Industrial Order no.	Academic Order no.
eLABInventory Cloud, 3-seat year license	BIT0140503	BIT0140501
eLABInventory Cloud, 5-seat year license	BIT0140103	BIT0140101
eLABInventory Cloud, 10-seat year license	BIT0140203	BIT0140201
eLABInventory Cloud, 25-seat year license	BIT0140303	BIT0140301
eLABInventory Cloud, 50-seat year license	BIT0140403	BIT0140401

System maintenance, software updates, and support are included in the offered licenses.



eLABJournal

- > Intuitive user interface for easy handling
- > Use protocols as a template for your experiments and easily adjust the protocol according to your experiment setting using dynamic fields to save time
- > Upload and link any type of file and link it to your experiment for safe documentation
- > eLABJournal has various add-ons to provide seamless integration and expand your possibilities
- > 21 CFR part 11 compliant for documentation security

Ordering Information

Description	Industrial Order no.	Academic Order no.
eLABJournal® Cloud, 3-seat year license	BIT0100503	BIT0100501
eLABJournal® Cloud, 5-seat year license	BIT0100103	BIT0100101
eLABJournal® Cloud, 10-seat year license	BIT0100203	BIT0100201
eLABJournal® Cloud, 25-seat year license	BIT0100303	BIT0100301
eLABJournal® Cloud, 50-seat year license	BIT0100403	BIT0100401

System maintenance, software updates, and support are included in the offered licenses.



CO₂ and LN₂ Back-up System

- > Equipped with a battery back-up to temporarily protect the contents of your freezer in case of power failure
- > Available in either liquid CO₂ and LN₂. Liquid CO₂ can maintain temperatures between -50 °C and -70 °C, where as LN₂ can go down to -85 °C
- > Both systems can be factory installed with your freezer order or retrofitted on location
- > Info: CO₂ and LN₂ are not interchangeable systems

Ordering Information

Description	Order no.
Innova® U101; U360; U535; U725/-G; C585; C760; CryoCube F740 series	
CO ₂ back-up system, 100 V/50 – 60 Hz, Innova® («narrow» version)	F652999005
CO ₂ back-up system, 120 – 220 V/60 Hz, Innova® («narrow» version)	U9043-0002
CO ₂ back-up system, 230 V/50 Hz, Innova® («narrow» version)	U9043-0004
LN ₂ back-up system, 100 V/50 – 60 Hz, Innova® («narrow» version)	F652999006
LN ₂ back-up system, 120 – 220 V/60 Hz, Innova® («narrow» version)	U9044-0002
LN ₂ back-up system, 230 V/50 Hz, Innova® («narrow» version)	U9044-0004
CryoCube® F570 series, FC660 series; Premium U410; HEF U410	
CO ₂ back-up system, 120 – 220 V/60 Hz, («broad» version)	U9043-0006
CO ₂ back-up system, 230 V/50 Hz, («broad» version)	U9043-0008
LN ₂ back-up system, 120 – 220 V/60 Hz, («broad» version)	U9044-0006
LN ₂ back-up system, 230 V/50 Hz, («broad» version)	U9044-0008

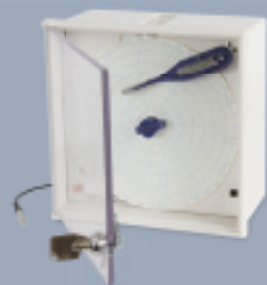
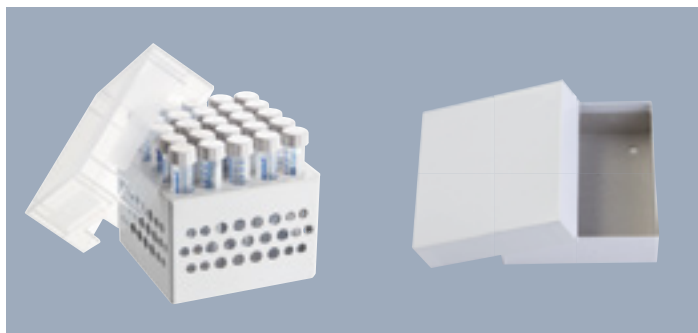


Chart Recorder

- > Includes chart recorder, RTD probe, keys, chart recorder paper, and chart recorder pens
- > Front mounted to your freezer for easy access and can be fitted to all freezer models
- > User configurable built in high and low temperature alarms
- > Can be factory installed with your freezer order or retrofitted on location
- > Selectable temperature range (0 to -50 °C and -50 to -100 °C) and rotation speed
- > Type I: Battery powered, will provide a minimum of eighteen months of operation
- > Type II: ULT freezer powered with backup battery (for CryoCube F740 series)

Ordering Information

Description	Order no.
Chart Recorder (Type I)	P0625-2100
Chart Recorder (Type II) (100–120 V)	F652999001
Chart Recorder (Type II) (208–230 V)	F652999002
Chart Recorder pens (Type I), 3 pk	K0660-0051
Chart Recorder pens (Type II), 3 pcs.	F652999004
Chart Recorder paper (Type I), 0 to -50 °C	P0625-2111
Chart Recorder paper (Type I), -50 to -100 °C	P0625-2110
Chart Recorder paper (Type II), 0 to -100 °C, 60 pcs.	F652999003

**Freezer Storage Boxes:**

- > Outer footprint dimensions (133 mm) are compatible with common freezer rack systems
- > Inner grid variants for all typical tube formats: cryogenic tubes, microcentrifuge tubes, conical tubes 15 and 50 mL, and other laboratory vessels
- > White cardboard box (133 mm) with water resistant coating, designed to withstand ultra-low temperature

Ordering information

Description	Order no.
Storage Box 10 × 10 , for 100 cryogenic tubes w. int. thread, 3 pcs., height 52.8 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.508
Storage Box 9 × 9 , for 81 screw cap (cryog.) tubes 1-2 mL, 3 pcs., height 52.8 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.516
Storage Box 9 × 9 , for 81 screw cap (cryog.) tubes 3 mL, 2 pcs., height 76.2 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.540
Storage Box 9 × 9 , for 81 screw cap (cryog.) tubes 4-5 mL, 2 pcs., height 101.6 mm, 4 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.567
Storage Box 8 × 8 , for 64 tubes 1-2 mL, 3 pcs., height 52.8 mm, 2 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.524
Storage Box 5 × 5 , for 25 tubes 5 mL, 4 pcs., height 63.5 mm, 2.5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.532
Storage Box 5 × 5 , for 25 tubes 5 mL screw cap, 2 pcs., height 76.2 mm, 3 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.613
Storage Box 5 × 5 , for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.583
Storage Box 3 × 3 , for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 inch, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code	0030 140.591

Ordering information

Description	Order no.
Freezer Cardboard Storage Boxes , white, dividers sold separately	
50 mm tall	B50-SQ
75 mm tall	B75-SQ
100 mm tall	B95-SQ
Freezer Boxes Dividers , for cardboard storage boxes	
7 × 7 , 17.4 mm max. tube diameter, holds 49 tubes	049
8 × 8 , 15 mm max. tube diameter, holds 64 tubes	064
9 × 9 , 13 mm max. tube diameter, holds 81 tubes	081
10 × 10 , 11.8 mm max. tube diameter, holds 100 tubes	0100

> Ordering information regarding racks is available online, via the online configurator, or within a separate brochure

Fitness for Your ULT Freezer



Take good care of your freezer

Taking care of your freezer can help ensure optimal storage of your samples for years to come.



Therefore, we strongly recommend that you perform the following actions on a regular basis:

Freezer maintenance		As needed	3 months	6 months	12 months
Cleaning door gaskets	Dry cloth, brush	■			
Remove snow/ thin ice	Cloth, brush	■			
Vacuum relief port	Cloth	■			
Vacuum relief port	Vacuum	■	■		
Condenser cleaning	Vacuum			■	
Defrost and cleaning	Power off, dry				■

Ordering information

Description	Order no.
Freezer air filter	
Innova® U101	K0200-0506
Innova® U360	P0625-1110
CryoCube® F740 series	F740850029
Non-listed upright models	K0200-0511
Chest Models	K0200-0516
Freezer extra shelf , includes four mounting clips	
Innova® U101	P0625-0180
Innova® U360	P0625-1180
Innova® U535	K0280-1034
Innova U725 series	K0280-1036
U410 series	K0280-1031
CryoCube® F570 series	K0280-1030
CryoCube® F740 series	F740850086
Stainless Stell Shelf Clips, pack of 4	K0280-0550
Inner lids for Chest Freezers	
Innova® C585	K0160-0777
Innova® C760	K0160-0776
CryoCube® FC660 series	K0280-1043

Ordering information

Description	Order no.
Additional	
Battery, 6V, 2.8 Ah, all models except CryoCube® F740 series	K0380-0170
Battery (Li) for F740 series	F740850003
Alarm connector plug, for bms relay	K0380-0451
External Voltage Stabilizer, 120V/60 Hz	M1322-0000
External Voltage Stabilizer, 208–230V/60 Hz	M1322-0002
U101 stacking kit	P0625-0020
Padlock adapter kit, for upright models except CryoCube® models	P0625-1170
Padlock adapter kit, for CryoCube® F570 series	F651570003

Pit Stop Needed?

In addition to our extensive standard warranty, Eppendorf offers ULT Freezer Performance Plans to suit your lab's needs while enhancing your peace of mind. You can choose between essential function checks, preventive maintenance plans, or Installation and Operational (IQ/OQ) certification services. Protect your priceless samples!

Preventive Maintenance

The Eppendorf Ultra-low Temperature Freezer Performance Plans components include a choice of preventive maintenance protocols designed to check, validate and to promote continuous stable freezer performance, optimizing instrument conformity with programmed storage temperatures.

- > The **Essential Check** includes a check of all fundamental functions of the product.
- > The **Advanced Maintenance** includes all preventive maintenance services in order to keep the instrument in accordance with the manufacturer specifications.
- > Our preventive maintenance offerings ensure that stored samples are protected through continuous refrigeration efficiency, reliability, and rapid recovery of storage temperatures to pre-set levels following door openings.

Certification Services

Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements by providing you with qualified assurance that your ultra-low temperature freezer is functioning correctly, in accordance with manufacturer specifications.



epServices
for premium performance

eppendorf

Performance tested on

Model: _____

Serial no.: _____

Serviced by: _____

Service no.: _____

Next service: _____

Date: _____

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»Eppendorf ULT Freezers: Your Samples are Safe with Us.«

View even more freezers, accessories, and options

Eppendorf ULT Freezers have established a reputation for outstanding sample quality preservation while minimizing energy consumption. Combined with rapid delivery and service, Eppendorf freezers continue to raise the bar.

> Explore all the cold storage solutions Eppendorf has to offer on our extensive web page and eShop



> Learn more about sample security:
www.eppendorf.com/freezers
> Have a detailed look at our entire ULT Freezer Portfolio using this QR Code

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