

Haier Biomedical Cooperates with the McGill University Health Center

The McGill University Health Centre is one of the largest and most advanced medical institutions in North America renowned for its integration of treatment, research, and education. It encompasses several esteemed medical facilities, including the Montreal General Hospital, Royal Victoria Hospital, Children's Hospital, Cancer Research Institute, Heart Research Institute, and Lachine Hospital, and has established fruitful partnerships with hospitals in 51 countries worldwide.



Haier Biomedical, an ecological brand of life science and medical innovation digital scenario, successfully secured the contract for the McGill University Health Center, owing to its core strengths, which include a user-centric service philosophy and a commitment to delivering excellent product quality. 30 units of NSF Biological Safety Cabinets, valued at approximately USD \$400,000, were delivered within a short period of time, based on the immediate need of the health center. The delivery not only met the stringent quality standards but also ensured the promised quantity was fulfilled.

However, the path to success is not without obstacles. Haier Biomedical's competitors for this project are leading international companies with exceptional capabilities, and the client has exceedingly high expectations for delivery, quality, and service. In response, Haier Biomedical, in collaboration with local partners, placed emphasis on user demands, and is fully committed to offer not only one-stop product services, but addresses issues from warehousing to logistics, installation, and training, but also leverage their past successful experiences to showcase the company's strength. This approach has earned itself acceptance and recognition from the client, further solidifying their trust in Haier Biomedical and its products in the North American market.

This project also serves as an opportunity for Haier Biomedical to expand into international markets, facilitating the company's localization and construction in Canada, enhancing its consumer insight capability and responsiveness to user needs, and laying a solid foundation for future local services.



The continuous development of science and technology, coupled with the growing emphasis on safety awareness among the public, has led to a surge in usage of Biological Safety Cabinets across hospitals, research institutes, laboratories, and other similar establishments. Haier Biomedical excels in the research and development and innovation of Biological Safety Cabinets, catering to various sectors such as pharmaceuticals, medical, and healthcare, as well as scientific research laboratories. Haier Biomedical Biological Safety Cabinets are distinguished from their competitors by six advantages and features; these include intelligent constant air velocity technology, a safety cabinet interlock function, a filter life cycle alarm, a one-click UV lamp time reservation, an intelligent green energy-saving mode, and airflow blocking safety technology for personnel safety.



At Present, all 30 Biological Safety Cabinets are performing as expected, receiving high recognition from the McGill University Health Center. Haier Biomedical's success in the international market is, once again, exemplified by the strong performance of its Biological Safety Cabinets, which has bolstered it to being one of the healthcare suppliers for top universities worldwide. In the future, the company will continue to commit to prioritizing user experience and driving global innovation, aiming to expand its product portfolio and explore new scenarios, ultimately establishing itself as the international leader in the biosafety science and technology industry.

Successful Conclusion of Haier Biomedical's UNICEF Training Session in Tunisia

Driven by the international landscape, the biomedical industry has experienced rapid growth in recent years, prompting an increase in the demand for biomedical products in the global market, which, in turn, has led to a golden period for the development of vaccine safety, safe storage of medical reagents, and comprehensive cold chain solutions. From research institutes to pharmaceutical companies, biomedical products have found their applications in a wide range of industries.

As a life science and medical innovation digital ecological brand, Haier Biomedical has consistently prioritized user satisfaction, with a strong focus on creating the best user experience and establishing a professional after-sales service system. The company emphasizes not only product quality and technology innovation, but also localized service quality and response time. In this context, it has regularly conducted training sessions aimed at fostering communication with its local partners.



Haier Biomedical was recently invited by UNICEF Tunisia to provide technical training on vaccine cold chain and remote temperature monitoring device (RTMD) for the Tunisian Ministry of Health, aiming to offer systematic and standardized training to technicians and end-users from the Tunisian Ministry of Health. This event comprehensively covered various aspects such as product installation, use, maintenance, repair, and other relevant knowledge, and introduced Haier Biomedical's full-scenario vaccine storage and transportation solutions with PQS certification, thereby ensuring vaccine safety and the best experience for local users throughout the entire process.



This training session emphasized knowledge on the RTMD system, which can cater to users' requirements for real-time monitoring of temperature changes in cold chain equipment, enable users to conveniently monitor the operational status of the cold chain equipment using computers, cell phones, or other electronic devices, promptly alert users to any faults that may occur during the operation of the cold chain equipment, such as abnormal temperature, door opening, or power failure. The system also provides users with a large number of temperature data reports, allowing them to analyze the current condition of the stored items, effectively monitoring vaccine temperatures, thereby ensuring vaccine safety.



Certificates authorized by Haier Biomedical were issued to the participants at the conclusion of the training.

In Tunisia, Haier Biomedical's products hold a market share of over 60% in local cold chain projects, so the company places great significance on pre-sales and after-sales service training for its products. During the Haier Biomedical Dealer Conference in May this year, service providers from Tunisia visited the Haier Biomedical headquarters to learn and exchange knowledge about vaccine refrigerators, and subsequently shared learned knowledge with the locals in Tunisia, resulting in significant impact. According to the company's Tunisian partners, this recent training session helped "more intuitively and comprehensively enhance understanding of Haier Biomedical's cold chain system, enabling better customer service." In the future, they will continue to closely follow Haier Biomedical's other products and further strengthen their collaboration with the company.



This event in Tunisia not only enhanced Haier Biomedical's brand recognition among local partners but also provided valuable product feedback to the company, enabling the company to innovate and expand new scenarios in future product development, offering clients new, safer, and more reliable solutions.

White Paper on Laboratory Freeze Dryer Use

The origins of freeze dryers can be traced back to the development of vacuum freeze-drying technology in the 1820s. In the 21st century, vacuum freeze-drying technology has found various applications, such as the drying of biotechnological and pharmaceutical products (e.g., tissues and tissue extracts, bacteria, vaccines, and serums) in biological research and medical laboratories, as well as the highly efficient freeze-drying of samples in food research and the chemical industry.

A freeze dryer is one of the essential scientific instruments in laboratory settings. Unlike wet reagents, freeze-dried products are solid and stable before being resuspended, which greatly improves the preservation time of samples at ambient temperature, facilitating the experiments and saving the costs. However, the use of traditional freeze dryers frequently give rise to a multitude of problems

◆ Problem 1: High ambient temperature results in reduced efficiency of freeze dryers

The freeze dryer needs to be operated in a suitable ambient temperature range. When the temperature is higher than 30°C, the condenser may experience system failure, leading to a failure in the condensation process. Therefore, to regulate ventilation and cooling conditions, it is advisable to open the back door of the condenser or the laboratory door and window when the ambient temperature reaches around 28°C.

◆ Problem 2: Fluctuating voltage levels hinder the proper functioning of freeze dryers

The freeze dryer's normal operating power supply voltage ranges from 215 to 225 volts. If the voltage deviates from this permissible range, the compressor's effectiveness is compromised. Therefore, in cases of an unqualified power supply voltage, replace the power supply with a qualified one; in cases of voltage instability, use an AVR (220V) or add a voltage regulator to the existing power supply.

◆ Problem 3: Poor freeze-drying outcomes due to inaccurate parameter settings

Depending on the properties and requirements of the substance, parameters such as the suitable freeze-drying profile, temperature, and vacuum should be set before using the freeze dryer. Therefore, before conducting an experiment, it is imperative to know the existing freeze-drying curves and experimental data for reference purposes.

When updating their equipment, laboratories are opting for more intelligent and efficient lyophilizers over traditional freeze dryers, which have proven to be troublesome to use and lacking in intelligence, as well as gradually phased out as technology progresses. Haier Biomedical's new Freeze Dryer Disrupts conventional design and enhances the freeze-drying process, which has quickly gained popularity among medical institutions and scientific research laboratories as an excellent option.



◆ 1. Integrated Design and Fully Enclosed Chamber

A cryogenic room's ideal location is one that offers the greatest accessibility. Careful consideration of the placement of the LN₂ storage container is required, as it will require filling via a pressurized vessel. Ideally, the liquid nitrogen supply vessel should be located outside of the sample storage room, in an area that is well ventilated and secure. For larger storage solutions, the supply vessel is often connected directly to the storage vessel via a cryogenic transfer hose. If the layout of the building does not allow the supply vessel to be located externally, extra care must be taken during handling of the liquid nitrogen, and a detailed risk assessment needs to be carried out, encompassing monitoring and extraction systems.

◆ 2. Intelligent and Automated

Intelligent setup of freeze-drying parameters eliminates the need for individual setup each time, which is convenient and meets diverse freeze-drying requirements. Additionally, it utilizes IoT real-time management, ensuring independent account access and enabling traceability of data throughout the entire process. The equipment is also equipped with intelligent Internet of Things (IoT) technology, allowing for 24-hour real-time monitoring of its operational status.

◆ 3. Efficient Cooling and Drying

The evaporator is located in the zinc pool, which directly cools the sample and improves refrigeration efficiency to -60°C within a span of 25 minutes. The equipment has superior temperature uniformity, unaffected by external factors, and adopts a design incorporating deflector plates to optimize airflow to ensure a higher rate of water vapor capture and a more stable drying process, thereby prolonging the service life of the vacuum pump, improving sublimation speed and drying efficiency, and promoting energy efficiency and environmental sustainability.

◆ 4. Various Alarm Functions

Haier Biomedical's Freeze Dryer is equipped with various alarm functions, including cold trap cooling timeout, vacuum pump oil replacement reminder, temperature sensor failure/cold trap temperature sensor failure vacuum sensor failure, condenser sensor failure, ambient temperature sensor failure, refrigeration abnormality, motor overcurrent condenser condenser dirty alarm, vacuum alarm, and heater lamp life when less than 10%. These alarms are designed to safeguard sample and equipment safety.

◆ 5. Humanized Design

The equipment features automatic lifting shelves, eliminating the need for manual operation. It also includes an upgraded vacuum pump port, providing greater convenience for oil changes, with removable filters that facilitate cleaning and replacement. Additionally, it has a glass door, which ensures a safer and more intuitive view of the drying room's working status, providing a brand new freeze-drying experience.

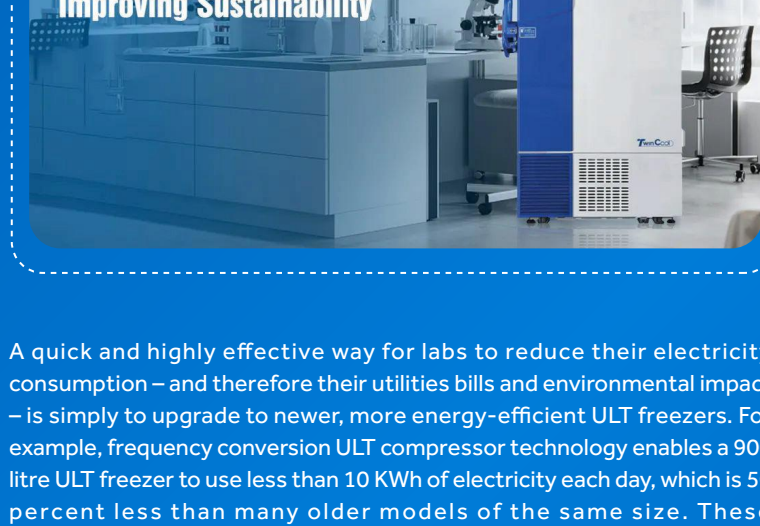


In short, freeze dryers preserve sample quality and improve sample stability and safety through the process of rapid freezing and vacuum drying. This underscores the significant application value of the freeze dryer in the biomedical field, as a top-notch freeze dryer can greatly improve experimental efficiency and reduce experimental costs. Haier Biomedical's Freeze Dryer has been widely put into use in colleges and universities, revolutionizing the traditional freeze-drying process by incorporating intelligent and fully automated management, bringing a more efficient, convenient, and safer freeze-drying experience to the industry.

ULT Freezers: Reducing Costs and Increasing Efficiency Improving Sustainability

With the growth of the world's population and the rapid development of the economy, the problem of energy supply and energy consumption is becoming more and more prominent, how to efficiently utilize energy resources, reduce energy consumption, improve energy utilization has become one of the important issues that need to be resolved in today's society, in this environment, energy consumption energy efficiency energy management has inevitably become a key link in the field of biomedical field to achieve sustainable development.

Ultra-low temperature (ULT) freezers are used across a wide range of scientific disciplines for the medium to long term storage of biological samples, drugs, enzymes and chemicals. Cryopreservation between -40°C and -86°C preserves important specimens over indefinite periods of time without degradation, making them a vital part of a research and clinical laboratory. Unfortunately, ULT freezers operating between -70°C and -80°C consume around 16-22 KWh of electricity per day, making them extremely energy intensive and costly to run. In reality, the typical electricity usage of ULT freezers is frequently even higher than this, with older units operating in very warm ambient conditions being the worst offenders. This high consumption also raises environmental concerns, motivating labs to look for ways to make their freezers more energy efficient and support their institution's sustainability goals.



A quick and highly efficient way for labs to reduce their electricity consumption – and therefore their utilities bills and environmental impact – is simply to upgrade to newer, more energy-efficient ULT freezers. For example, frequency conversion ULT compressor technology enables a 900 litre ULT freezer to use less than 10 KWh of electricity each day, which is 50 percent less than many older models of the same size. These energy-efficient frequency conversion models can offer significant savings over the lifetime of a freezer, and provide a more eco-friendly alternative for environmentally focused institutions.

When making purchasing decisions, look for ULT freezers with built-in energy saving features that can help to reduce electricity usage and running costs, including vacuum insulated panels, multi-layered door seals, hydrocarbon refrigerants and microprocessor controllers. The long term financial savings resulting from lower energy consumption will soon outweigh the higher initial investment associated with these newer, greener models, enabling labs of all sizes to support the industrywide shift towards net zero.

The TwinCool ULT Freezer range with frequency conversion compressor technology from Haier Biomedical features two independent refrigeration systems, which operate on demand depending on ambient conditions, to ensure samples are fully protected even under challenging conditions or in the unlikely event of a compressor failure. The frequency conversion compressors have adaptive control, following user patterns and adjusting the refrigeration system, substantially reducing energy and without compromising performance. The TwinCool also features an innovative cabinet design and hydrocarbon refrigerants, giving this entire range impressive energy consumption figures, excellent uniformity (±3°C) and extended temperature holdover times during power failure.

◆ Comprehensive Cold Chain Solutions

We are a leading provider of laboratory and medical equipment, with a mission to enable better lives globally. We provide innovative, robust and sustainable products and services to the life science sector, and are proud to be the sole manufacturer offering a complete range of cold chain products covering all temperature ranges, from -196 to +4°C. Moreover, our products are supported by a comprehensive wireless monitoring system that ensures compliance with healthcare regulations.

◆ Leaders in Sustainability

Haier Biomedical is a pioneer in corporate sustainability and green innovation, taking the lead in integrating intelligent design, environmental protection and sustainability into all production workflows. In terms of cold chain product materials, Haier Biomedical strictly follows the requirements of laws and regulations, carefully audits the qualifications of suppliers, further improves the procurement process and mechanism, and prioritizes the procurement of renewable and recyclable materials in the selection of parts and components, and raises the proportion year by year to mitigate the adverse impact on the environment. Through its own practice, Haier Biomedical has opened the stage of green and low-carbon development in the industry, empowered the practice of carbon reduction with technological innovation, and continued to lead the industry in green transformation and development.

◆ Cutting-edge Designs

Haier Biomedical's ULT freezer portfolio features state-of-the-art advancements for refrigeration technology that greatly reduce energy consumption. For instance, hydrocarbon refrigerants save up to 50 percent of a unit's energy consumption, significantly reducing running costs. They also achieve near-zero global warming potential – and zero ozone depletion potential – vastly improving refrigeration efficiency and drastically reducing carbon emissions. Additionally, our patented frequency conversion compressor uses proprietary Adaptive Technology, setting it apart from industry-standard single speed compressors, which simply cycle on and off. This means that the compressor can quickly adapt to conditions inside and outside of the freezer, by adjusting its running speed for optimal cooling performance. The drive runs at a lower speed when conditions are normal, conserving energy while effectively protecting samples.

