

Haier Biomedical Liquid Nitrogen Container Assists the TUSEB Biobank Project in Turkey

The integrity of biological samples is a crucial component of basic and clinical research. The capacity and quality of biobanks and biorepositories have grown in recent years, making them treasure troves of biological information. Entire studies are conducted using samples in such biobanks, without having to collect additional and sometimes rare samples from patients. Biobanks are also important for longitudinal studies of patients undergoing long-term treatment of illnesses such as cancer, preserving original tumor samples as a valuable snapshot in time that may someday help to cure it.



TUSEB ordered five YDD-750-445 liquid nitrogen containers from Haier Biomedical after a comparison process in order to improve the construction of a biobank and to achieve safe and efficient storage. It includes nine research institutes: the Turkish Cancer Institute, Biotechnology Institute, Maternal, Child and Adolescent Health Institute, Institute of Public Health and Chronic Diseases, Traditional and Complementary Medicine Institute, Health Care Quality and Accreditation Institute, Health Policy Institute, Vaccine Institute, and the Institute of Health Data Research and Artificial Intelligence Applications. The project aims to help these biobanks to store biological samples to assist in the various research efforts of the institutes.

Prior to the partnership, the Haier Biomedical team, together with local partners, actively communicated with the customer, through factory Webinar live training, video, telephone, and many other interactions, so that the customer understood Haier Biomedical's professional technical level and superior product performance, and finally won the customer's trust, to provide users with safe and reliable biological sample storage solutions.

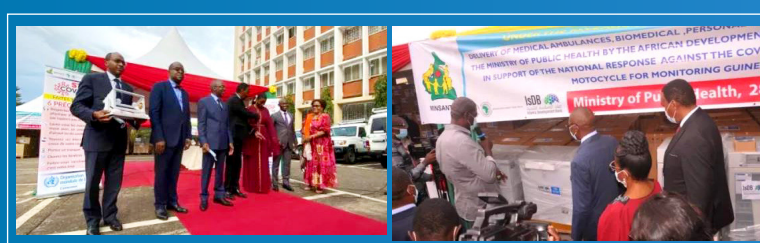
The Haier Biomedical Liquid Nitrogen container YDD-750-445 is a superior safety product with a gas-liquid dual phase to provide the safest storage environment for biological samples.

Compared with similar products, the liquid nitrogen container YDD-750-445 has a small footprint and stores more samples, saving space and reducing the cost per unit of sample storage; the product is designed with a vacuum-insulated stainless steel chamber structure with high vacuum coverage to ensure insulation and thermal insulation performance; the innovative lid and small neck opening significantly reduce the volatilisation rate of the liquid nitrogen and keep the temperature stable, ensuring that the temperature inside the tank remains no higher than -150°C even after 48 hours of continuous lid opening; the hot gas bypass removes room temperature nitrogen from the pipeline before liquid nitrogen is injected, ensuring that only ultra-low temperature liquid nitrogen is injected into the container, avoiding temperature fluctuations in the liquid nitrogen container during the filling process, which can affect the safety of the sample, and also reducing additional liquid nitrogen consumption.

Haier Biomedical Wins WHO Project in Cameroon, Helping to Improve Local Healthcare

According to the Journal du Cameroon, the current blood transfusion situation in Cameroon is worrying, with a high number of women dying during childbirth due to lack of blood, accounting for 40% of all deaths, and the annual demand for blood products is around 400,000 bags, yet so far the local capacity for blood collection is only 100,000 bags, leaving a shortfall of 300,000 bags of blood to be filled.

To alleviate the blood shortage in Cameroon and improve the quality of local healthcare, the World Health Organization, in collaboration with ISDB Bank, has chosen Haier Biomedical to fund and purchase Haier Biomedical's Blood Refrigerator HXC-106 and Haier Biomedical's Plasma Freezer DW40-W100, a total of 196 units of Haier Biomedical products to help build the national blood transfusion centre and 4 regional blood transfusion centres in Cameroon. This will alleviate the blood shortage and help improve hospital services by covering 98 hospitals across the country.



Haier Biomedical's Blood Bank Refrigerator HXC-106 is designed as a vertical single door with double electric glass door and self-closing function; the outer shell and inner chamber are coated with steel plate to prevent bacteria from contaminating the sample, while at the same time; the international brand compressor is used and the refrigeration system is deeply optimized, which not only saves energy and low in noise, but also extends the service life of the unit.



The adjustable temperature range of the Haier Biomedical Freezer DW40-W100 is capable of reaching -20°C to -40°C, ensuring safe storage of samples; five alarm functions, high/low temperature, power failure, sensor error, low battery, and high/low ambient temperature to ensure the safety of the equipment, samples and personnel; and the shelf-type evaporator is designed for rapid cooling.



Haier Biomedical Participates in the UN COVAX Program to Help Fight the Pandemic in Bangladesh

COVAX, known as the COVID-19 Vaccine Implementation Program, is co-led by the Coalition for Epidemic Prevention and Innovation (CEPI), the Vaccine Alliance (Gavi) and the World Health Organization (WHO) to ensure equitable access to the COVID-19 vaccine for all participating countries and economies. To date, COVAX has delivered more than 435 million doses of COVID-19 vaccine to 144 countries.

To enable Bangladesh, where more than 10 million doses of COVID-19 vaccine will be used for local vaccination, to receive, store and distribute large quantities of COVID-19 vaccine requiring ultra-low temperature storage, 26 Haier Biomedical ultra-low temperature refrigerators were successfully delivered by COVAX, each capable of storing more than 300,000 doses of COVID-19 vaccine and able to support the use of these vaccines outside of the capital Dhaka. Due to the additional ultra-low temperature chain capacity, 2.5 million doses of Pfizer vaccines have been donated to Bangladesh were able to be shipped.



The delivery of 26 ultra-low temperature refrigerators to Bangladesh is part of UNICEF's global target of delivering 350 ultra-low temperature refrigerators to more than 45 countries on behalf of COVAX. © UNICEF/UN0527479/Sujan

Corporate Social Responsibility is one of Haier Biomedical's core values and Haier Biomedical is proud to be involved in the COVAX project in Bangladesh to enhance local vaccine storage capacity. Each ultra-low temperature freezer will play a key role in vaccine storage while ensuring that vaccines are equally accessible to all globally, especially in emerging economies.

Urgent Delivery, Haier Biomedical Supporting Colombia's Herd Immunization

According to The City Page Bogotá, the Colombia national government will hand-over additional shipments of Pfizer and Moderna vaccines this week to meet demand for second doses. With 4,975.656 infections and death toll that has claimed 126,726 lives, Colombia needs to maintain daily vaccination rates above 300,000 to reach a target of 36 million inhabitants (age 12 or older) with fully completed vaccination schemes by the end of 2021. The 36-million population eligible to vaccinate represents 70% of the country's population. It's been over eight months since the start of the National Vaccination Plan with more than 43 million coronavirus doses being administered, with 18.8 million citizens fully vaccinated.

In order to better implement the national vaccine network and respond positively to the Colombian government's "mass immunisation" target, the local MoH has imported 585 Ice-Lined refrigerators HBC-260 and 105 Solar Direct Drive Freezers HTD-40 from Haier Biomedical to deploy the vaccine cold chain in more than 500 cities and regions across Colombia in a localised manner. This will enable the vaccination target to be met successfully.

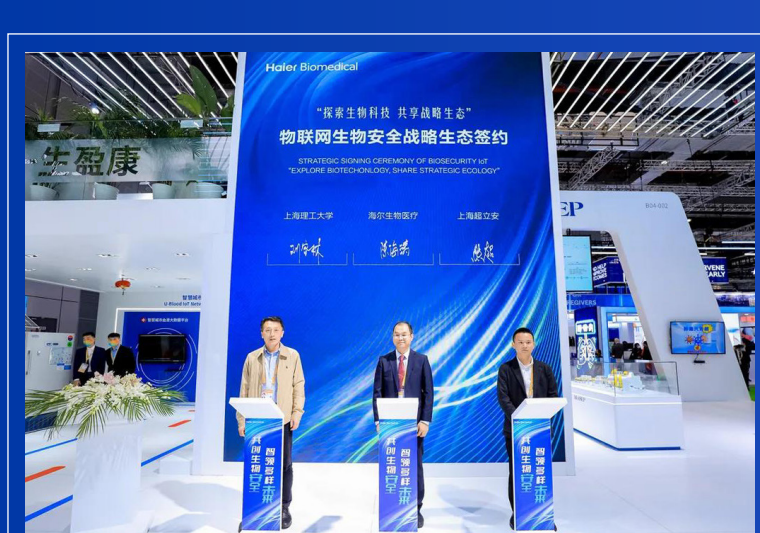


The first order of products arrived on time and has been installed and successfully delivered to local hospitals with the assistance of local distributors, which will speed up the process of mass vaccination throughout Colombia and contribute to mass immunization in the country.

Haier Biomedical is mindful of the changes in the global pandemic, and we will continue with our corporate social responsibility, to work with our stakeholders to deliver each project with a professional attitude, high quality of products and superior emergency handling capabilities, the team is committed to protecting the safe storage of vaccines to ensure the Intelligent Protection of Life Science to "Make Life Better".

Lower Carbon, More Energy Efficient and More Environmentally Friendly, Haier Biomedical Takes You into A New Era of Deep Cryogenic Storage at CIE

On the morning of November 6, at the 4th China International Import Expo (CIE 2021), Haier Biomedical and Shanghai Chaolian Technology Co. signed an agreement to work together to accelerate the industrialization of the new Stirling refrigeration technology in the field of biomedical cryogenic storage.



This is Haier Biomedical's core technology upgrade based on the biosafety industry, however, this is also in response to the country's major strategic layout of "carbon peak, carbon neutral", Haier Biomedical through the introduction of aerospace science and innovation to accelerate the industrialization of Stirling high-efficiency ultra-low temperature refrigeration technology implementation, is leading the green low-carbon transformation of the whole industrial chain of deep cryogenic storage, and will continue to promote the high-quality development of the biosafety industry.

Stirling refrigeration technology leads industry upgrade with both high efficiency cooling and low carbon

Stirling refrigeration technology is an advanced cryogenic refrigeration technology. It uses helium as a refrigerant, is environmentally friendly, has a high efficiency and a large cooling capacity, and can achieve rapid cooling in the deep cryogenic zone; it also has the advantages of high reliability and long life. This technology has been studied in depth in the US and Japan and is used in aerospace and other fields.

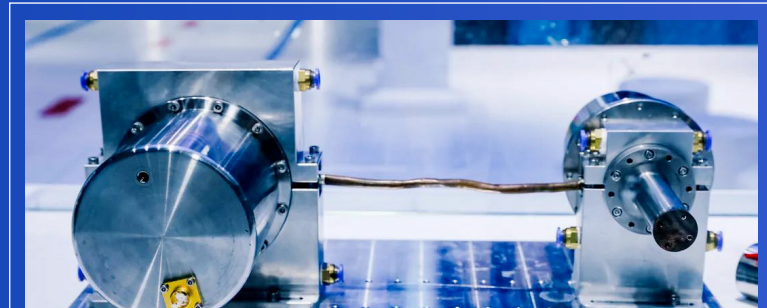
Haier Biomedical, as a comprehensive biosafety solution provider based on the transformation of the Internet of Things, is committed to building a leading capacity for efficiency and reliability. A few years ago, Haier Biomedical launched a research project on "High-efficiency and anti-disturbance Stirling refrigerator control system and its application in ultra-low temperature refrigerators" and successfully broke through the technical problems of high-efficiency Stirling refrigerator control. The project has successfully broken through the technical difficulties of high efficiency Stirling refrigerator control and achieved a leading position in high efficiency and high reliability control. Shanghai Chaolian is a high-tech enterprise dedicated to the application of cryogenic refrigerator and vacuum encapsulation technology in space exploration, infrared night vision, gas detection, biological medicine, superconductivity, scientific instruments and large scientific devices, and the formation of industrialization.

In response to the strategic significance of this strong cooperation between the two sides in the field of deep cryogenic refrigeration in China, Chen Haitao, deputy general manager of Haier Biomedical, said at the signing ceremony that "Stirling refrigeration technology is more efficient, more low-carbon and more environmentally friendly, and the cooperation

between the two organizations will lead China's deep cryogenic storage industry to achieve industrial upgrading." Xiong Chao, general manager of Shanghai Chaolian, said that the industrial application of Stirling refrigeration technology has achieved the goal of cutting-edge aerospace technology to help the development of the biomedical industry, and has also pushed the domestic deep cryogenic storage industry into a new era.

Breakthrough and accelerating the cryogenic refrigeration technology into a new era of multi-sector biosecurity

At CIE, we saw several Stirling refrigeration prototypes from Haier Biomedical, including integral Stirling refrigerators, long-life pulse tube refrigerators, linear Stirling refrigerators, free piston Stirling refrigerators and so on. Take the free piston Stirling refrigerator for example, it uses pneumatic technology for expansion refrigeration, which is not only green and low-carbon, but also can achieve a cooling capacity of not less than 300W at -86°C, highly efficient refrigeration; and has a compact structure, high reliability, long life, and other characteristics, and can be used in low-temperature refrigerators, low-temperature cold storage, liquid nitrogen production machine and other product areas.



It is easy to see that the economic and social benefits of Stirling refrigeration technology, which combines high efficiency refrigeration and green low carbon, are self-evident. With the accelerated pace of industrialization, Stirling refrigeration technology will be widely used in the field of vaccines, blood, biological science and pharmaceutical industries such as cryogenic storage and transportation, space CCD detection and cooling and other areas of cryogenic superconductivity, and genetic engineering, biomedicine, life sciences and other areas of cryogenic refrigeration, to further promote the development of high-end instruments and equipment for the biosecurity industry.

As a leading enterprise with nearly 20 years of R&D and technology accumulation in the field of cryogenic storage, Haier Biomedical has continued to provide technical support for many major scientific research projects in China since it broke through the biomedical cryogenic technology.

Currently, focusing on biosafety, Haier Biomedical has transformed into a global leading IoT integrated solution provider based on its core technology innovation and integration of IoT, which can provide comprehensive solutions around vaccine safety, blood safety, sample safety, drug, and reagent safety.

In the future, Haier Biomedical will continue to take national policies as the guide, integrate high-quality ecological resources, carry out key core technology research, and accelerate the innovation iteration of IoT biosafety scenarios, further seize the high point of technology in the field of biosafety, actively build a model of green development in China, and devote to enhance the industry voice of domestic and international brands.

