Haier Biomedical

Intelligent Protection of Life Science

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Newsletter

What's the Secret to Experimenting Safely, Anywhere & at Anytime?

While humanity has not been able to end the fight against the COVID-19 pandemic, newly reported cases of monkeypox have caused unease. In such a crisis-ridden era, the fight against viruses is urgent.



Biological safety cabinets have become widespread with the growth in this area due the current and ongoing need for further research into viruses.

When testing viruses or developing vaccines in the laboratory, experiment personnel generally need to work with the viruses or infected materials. Without proper protection, aerosols containing viruses will contaminate the experimental materials and equipment, resulting in experiment failure, and even will pollute the air in the laboratory, exposing the scientific research and testing personnel to dangers.

A biological safety cabinet is just a negative pressure ventilated filtering cabinet that prevents the operators and the environment from being exposed to the bioaerosols generated during experiments. In short, it protects people, products, and the environment through airflow.

According to the Laboratory Biosafety Manual, laboratories can be divided into four levels: P1, P2, P3, and P4 depending on the specific risks. Laboratories with P2 level and above are required to be equipped with biosafety cabinets, and experiment personnel are required to complete operations concerning dangerous pathogens in such cabinets.

However, traditional biosafety cabinets are bulky and not easy to move, which causes some troubles to users in the process of use.

Adhering to the "user-oriented" concept, Haier Biomedical has launched the portable mini biological safety cabinet HR700-IIA2. With a compact and smart body, the product enables small laboratories to conduct microbial experiments.



Security

I. Security and reliability

Designed with AAF filters and level 1 cleanliness, the mini biological safety cabinet provides powerful protection for people, the environment, and samples.

II. Interlocking function

The UV disinfection lamps, fluorescent lamps, front window, and fans are interlocked.

III. LCD

The LCD screen can display the various parameters and service life of accessories in real time, making the running status of the equipment visible.

User-friendliness

I. Sound and light alarm function

A well-developed alarm protection system, including hardware fault alarm, operating parameter over-limit alarm, filter, and UV lamp life alarm, etc., is available to give both sound and light prompts in the case of any fault, thus avoiding unnecessary losses caused by any misoperations.

II. One-key operation

The UV lamp one-key appointment function allows users to set the automatic on-off time and sterilization internal from 0 min to 24 hours, thus reducing the waiting time.

III. Standard electric glass door

The glass door of the traditional biological safety cabinet is usually manually controlled, and operators often need to change the height of the glass door according to the operating range. Frequent entering and exiting the operating room in such a case can lead to the release of infectious substances and disrupt the airflow in the operating room. The use of an electric glass door will avoid this situation and provide the greatest convenience for the operators.

Functionality

I. Uniform air flow

The mini biological safety cabinet has combined EBM fans with a professional airflow distribution design to realize lower noise and more uniform airflow. AAF filters (filtration efficiency of the upper filter: 99.9995%@0.12µm (U15); filtration efficiency of the lower filter: 99.999%@0.3µm (H14))

II. Featuring low resistance

AAF filters are more efficient and uniform in airflow filtering.

As technologies develop, biological safety cabinets are being used to more and more extensive fields. The Haier Biomedical team is committed to the innovation and research and development of medical devices, striving to safeguard the global health cause through the intelligent protection of life science to make life better for all.

HB Products Favored by the US Market!

With the ongoing development of a global sales network in recent years, Haier Biomedical has received wide recognition from customers, especially in the US market and was highly favored as the preferred provider of life science and biomedical solutions.

Kyverna Therapeutics is one of Haier Biomedical's important customers in the US. In the first half of the year, they closed \$85 million series B financing. Proceeds from the financing will be used to advance the phase 2 clinical trials of KYV-101, CAR-T cell therapy for autoimmune diseases initiated in the first half of the year, and to support the continued development of the engineered T cell therapy. "I admired Haier Biomedical's corporate culture very much, and Haier Biomedical's product provided Kyverna Therapeutics with a strong product portfolio." said Stefanie, the Facility Director of Kyverna Therapeutics.



Different with Kyverna Therapeutics, Geltor is an American bio-design company that focuses on designing and producing high-performance protein products, but that doesn't stop the team from loving Haier Biomedical's energy-saving ultra-low temperature freezers.



"I never doubted its performance, and what surprises me more is its quiet operation and blue appearance, which always put me in a good mood when I'm working," said Larry, Geltor's Facility and Security Director.

Besides the above, Haier Biomedical's ULT freezers were also widely used in the college, laboratory, government institutions to name but a few locations. The Johns Hopkins University in the United States has also introduced Haier Biomedical's ULT freezer to provide a safe storage environment for scientific research samples.

Additionally, Haier Biomedical has also won the trust of US government agencies. The US Center for Disease Control has reached long-term cooperation with Haier Biomedical and signed a five-year procurement agreement, which further proves the recognition and trust of Haier Biomedical from international markets.

Haier Biomedical's ULT freezer has reached the world-leading level in both performance and quality. Taking the ULT freezer DW-86L728J as an example, as a 728L model from the energy-saving series of Haier Biomedical's ULT freezer, the product is designed with HC refrigerants, and its daily power consumption is down to 10.5kWh/24h only. The unique door seal design can minimize temperature loss even in the process of the door opening. Also, the base is designed to absorb vibration and sound, ensuring a quiet working environment. Professional and ergonomic design makes this product more and more favored by international users.

As life science and technology continues to develop at a fast pace, the Haier Biomedical continues to stay at the forefront of industry innovation, and the team strives to build localized global sales network, and continue to insist on the "product + service" model to provide accurate services for users. Haier Biomedical will continue to promote innovation, research and development to constantly expand product categories, bringing more life science and biomedical products plus solutions to the world to make life better.

HB Supports Saudi Arabia's Pharmaceutical Transportation Project

Haier Biomedical recently reached cooperation with a large local pharmacy chain in Saudi Arabia. According to the agreement, Haier Biomedical exported a batch of transport coolers to the pharmacy chain for pharmaceutical and vaccine transportation.



The customer said that it would continue the friendly partnership with Haier Biomedical. "We need far more than that, and we will continue to purchase more vehicle transport coolers to ensure the secure and efficient transportation of pharmaceuticals and vaccines," said the pharmacy manager.



This cooperation has made up for the local shortage of cold chain transportation in Saudi Arabia, and Haier Biomedical's transport cooler has been greatly appreciated and recognized by local customers.

"Haier Biomedical is extremely efficient in production with very short a cycle from production to delivery, so we can put this batch of transport coolers in use quickly," said Steve, the sales manager of the pharmacy chain. The pharmacy chain is said to be very influential in Saudi Arabia, with more than 1,000 pharmacies spread across the country. The cooperation with the pharmacy chain also marked a significant milestone with Haier Biomedical opening up the Saudi market.

The BCD-115 transport cooler exported to Saudi Arabia has a detachable temperature sensor. In the case of failure, it can be replaced in time, so it is more convenient and flexible to use.

Also, the transport cooler provides a widescreen LCD display to show all data indicators clearly, thus facilitating the timely detection of the inner temperature and ensuring the security and stability of the pharmaceuticals inside.

Adhering to the mission of intelligent protection of life science, Haier Biomedical devotes itself to delivering the best cold chain solutions to the world leveraging the power of science and technology, thus safeguarding the development of the biomedical industry.

Haier Biomedical Won the 2022 Listed Company **Low-Carbon Contribution Award**

Ine 2022 International Green Zero-Carbon Pestival & 2022 ESG Leaders' Summit was held in Beijing recently. Themed by "the road to carbon neutrality", the event set up the "Zero Carbon Prize" for the practitioners and leaders of green development. Adhering to the "environmental development" concept, Haier Biomedical has always been actively practicing the "dual carbon" responsibility, promoting energy conservation and emission reduction through green technology innovation, and leading the green and low-carbon transformation of the biomedical and life science industry, striving to benefit global health with China's green and smart strategy. To this end, Haier Biomedical was given the 2022 Listed Company Low-Carbon Contribution Award at the International Green Zero-Carbon Low-Carbon Contribution Award at the International Green Zero-Carbon Festival.



Key technologies and leading the industry's advancement in the low-carbon transformation

Innovation is the central driver of green and high-quality development. Recently, nine authorities including the Ministry of Science and Technology issued the Implementation Plan for Supporting Carbon Peak and Carbon Neutrality with Science and Technology (2022-2030) and proposed to take actions in developing cutting-edge and disruptive low-carbon technologies and promote the transfer and transformation of low-carbon technology achievements, etc. As a Chinese and international enterprise focusing on science and technology innovation, Haier Biomedical has always been focus world leading solutions through innovation. Aiming at the forefront of industry development, the Company tackles key problems concerning low-carbon technologies, seizes the commanding heights of science and direction for green and low-carbon transformation.

Driven by the green science and technology innovation as part of our DBA, Haier Biomedical has made breakthroughs in key technologies of

Amid the smooth progress of the "dual carbon" strategy, it has become a explore new refrigeration technologies with higher efficiency, lower carbon emission, and more energy saving. Focusing on the development of cutting-edge green and low-carbon technologies, Haier Biomedical has taken the lead in developing Stirling refrigeration technology and its application projects and has successfully tackled the technical problems of efficient Stirling refrigerator control and reached a leading level in the world in terms of efficient and highly reliable control, creating a new path for the green "zero carbon" transformation of the cryopreservation industry. As the industrialization of the Stirling refrigeration technology speeds up, Haier Biomedical will surely promote the medical equipment of China's biosafety industry to achieve green and high-end development.

Based on its continuously-leading strength in green science and technology innovation, Haier Biomedical led the formulation of Energy Conservation and Environmental Protection Certification Criteria for Low Temperature Freezer and participated in the formulation of Energy Conservation and Environmental Protection Certification Criteria for Medical Freezer, which have filled the gap in the energy conservation and energy consumption identification standards of their respective fields and promoted the development of green standards in the industry.

Adhering to benefiting the people through science and technology, China's zero-carbon technologies benefit global health

The ultimate purpose of science and technology innovation is always to satisfy people's yearning for a better life. Bearing the mission of serving people through science and technology in mind, Haier Biomedical always focuses on the people's needs for a healthy and better life, develops key green and low-carbon technologies, and accelerates the industrial applications of such technologies, striving to show the world the power of China's green technologies.

Considering the status that the less developed parts of the world are difficult to obtain basic immunization coverage due to lack of electricity, vaccine refrigerator, which can deliver an insulation efficiency 1.6 times that of the foreign brand products with only 1/3 cold storage materials. With a battery-free design, the product life is also extended from the original 5 years to more than 10 years. Additionally, the SDD vaccine refrigerator can maintain a constant temperature under a large span temperature difference of nearly 50°C and hold the inner temperature below 8 °C for up to 120 hours at an ambient temperature of 43°C in the case of a power failure, far exceeding the 72 hours of holding time required by World Health Organization. The product has upgraded the highest level of protection for safe storage of vaccines and the relevant international standards



drocarbon refrigeration. In the ultra-low temperature preservation field Haier Biomedical has created the first energy-saving core series ultra-low temperature freezer. Designed with a hydrocarbon refrigeration system, the freezer's refrigeration efficiency can be increased by 30%, directly driving the ultra-low temperature freezer industry to save 50% of energy.

Additionally, with a completely fluoride-free design, the freezer does no harm to the ozone layer and brings an annual carbon emission reduction of nearly 100,000 tons. As to cryo preservation, Haier Biomedical has created the world-leading -150°C Cryo Freezer starting with the ultra-low temperature refrigeration system constructed on the basis of hydrocarbon refrigerants and frequency conversion compression technology. With hydrocarbon refrigeration technology as the core, the -150°C Cryo Freezer is designed to use the new-generation fluorine-free hydrocarbon refrigerants that produce no damage to the ozone layer and little greenhouse effect, the dual-compressor four-stage cascade refrigeration system, and IoT technology, which has effectively improved the refrigeration capacity per unit volume of the refrigerants and saves 30% of electricity. The -150°C Cryo Freezer is not only environment-friendly and energy-saving but also reliable and efficient.



For now, Haier Biomedical's solar vaccine refrigerators have benefited 78 countries and regions along the Belt and Road, serving 45 million school-age children around the world every year. While providing basic immune protection for the relevant population, Haier Biomedical's products and solutions also contribute to green development, reducing carbon emissions by109,500 tons per year in operation, which is equivalent to the carbon neutralization of 4500 mus of adult trees. In addition, Haier Biomedical also cooperates with the Pasteur Institute, the World Health research institutions in creating solar laboratory, solar direct drive cold storage, solar clinic, and other green solutions to help the less-developed parts of the world construct health care infrastructure, striving to benefit the global health with China's zero-carbon solutions.

Based on its continuous exploration and application of green technologies, Haier Biomedical's products have made numerous achievements: its solar direct drive refrigeration technology won the China Excellent Patent Award; its medical freezer was issued the first energy confederation and environmental protection certificate for medical freezers by China Quality Certification Center (CQC); its pioneered ULT series products were selected in the 2021-2022 Energy-saving and Environment-Friendly Product Catalogue of Chinese Association of Refrigeration; 36 self-developed models falling into the two categories: medical freezer and biosafety cabinet have been selected as excellent domestic medical equipment; 49 models of cryogenic storage products have passed the American Energy Star certification; more than 30 products have been selected into the World Health Organization PQS Global Procurement Catalogue. Haier Biomedical's green and low-carbon scientific innovation achievements have been unanimously recognized by the industry and the market.

Apart from technological innovation, on the road to "carbon neutrality" Haier Biomedical has blended the concept of green development in all fields and links and built a green and low-carbon development system that runs through the whole chain of production and operation from procurement to research and development, manufacturing, transportation, and office, aiming to provide technical support for the realization of the "dual carbon" goals. In the future, Haier Biomedical will continue to fulfill the "dual carbon" responsibility and accelerate the breakthroughs of key technologies and the iteration of green scenarios based on the green and high-quality development requirements of the biomedical industry, leading the industry to create a new situation for green zero-carbon development and transformation and injecting "green power" into the economic transformation and upgrading and the sustainable development to make life better.

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