Haier Biomedical's Success @Medica 2023!

MEDICA is a comprehensive medical exhibition held in Dusseldorf, Germany, and one of the world's largest medical trade fairs. The exhibition provides medical enterprises an opportunity to get in-depth understanding of the latest innovations and emerging trends within the medical industry. Haier Biomedical's participation in MEDICA 2023 attracted the participation of over 1,000 companies from more than 140 countries and regions. Chinese medical enterprises, in recent years, have recognized the significance of participating in MEDICA as an important strategy to expand their presence in international markets.

During MEDICA 2023, the focus was primarily revolved around subjects such as imaging and diagnostics, medical equipment and devices, laboratory equipment, physiotherapy/orthopedic technology, medical consumables, and IT systems and solutions. In this exhibition, Haier Biomedical, China's leading digital science solution provider for life science and smart healthcare, showcased its latest products and achievements and solutions to clients and partners at the exhibition. Haier Biomedical's booth (Hall 17, Booth C11) received a lot of visitors and customers in the field of life science and medical industry, thus ultimately showcasing a positive image and positioning itself as a leader in the industry's pursuit of high-quality development.

Haier Biomedical's booth caught the attention of attendees from around the world and during the event, the company's international and local team of professionals introduced their products, fostering enthusiastic on-site exchanges with visitors, other exhibitors and customers and expressing recognition and interest in Haier Biomedical's offerings, with others being placed on-site for sale and further discussions.

Having experienced Haier Biomedical's products on site, a client from all across Eurasia shared their thoughts, stating, "I believe that Haier Biomedical's products are the most suitable for me at this exhibition in terms of both appearance and performance. They were most impressed by the humanized design of the products' details, which greatly enhances the user experience. I'm also very keen on the brand's after-sales service as I invest in the products I purchase. The product has a good reputation in my country, and these partners want to establish a long-lasting partnership with Haier Biomedical."

The Ultra-low Temperature Freezers and Centrifuges showcased at the event are also the result of Haier Biomedical's dedication to R&D and developed ultra-low temperature freezers that incorporate inverter compressors and refrigerants that are capable of reaching -86°C. Haier refrigeration systems that function based on ambient conditions, ensuring the safety of samples even in the event of cooling uncertainties or in cases of compressor failure. In addition, the equipment features an innovative cabinet design and user-friendly control interface, as well as a temperature recovery time of less than 20 minutes after a door is closed, prolonged temperature retention during power failures. Meanwhile, Haier Biomedical's Centrifuge that underwent upgrades in aspects such as safety protection, high-efficiency refrigeration, and intelligent interaction comes equipped with technologies including a seamless cleaning gelbladder and assisted temperature control. In terms of safety, it features a lid lock that prevents accidental opening during operation, a rotor imbalance detection system to prevent speed operation, and multiple protection measures in place. users can have peace of mind when using the Centrifuge. At present, the product is widely used in various scientific research laboratories, including those in the fields of biological engineering, chemistry, chemical engineering, food and agriculture, engineering, and inspection and testing, greatly contributing to the progress of scientific research endeavors.

During this exhibition, dealers from various countries engaged in in-depth discussions on cutting-edge technologies. Haier Biomedical took the opportunity to present its comprehensive solutions and future development plans, showcasing the global ability to gain a deeper understanding of Haier Biomedical. In the future, the company will continue to meet the diverse, segmented, and personalized medical needs of its clients, with a focus on delivering exceptional user experience. Leveraging its R&D capabilities, Haier Biomedical will also provide laboratory equipment solutions for government, and making continuous efforts toward building a community of common health for all, to make life better.

Haier Biomedical Supporting Healthcare in Malaysia

While Malaysia has traditionally been famous for its tourism, recent years has seen the country's reputation for its perfect healthcare system and world-class healthcare environment fueled by the country's medical tourism industry. Positioning the region as a healthcare environment that is second to none, Malaysia's medical tourism industry is growing at a rapid pace, being reportedly ranked among the world's top 10 destinations for medical tourism, alongside relatively reasonable medical costs. Malaysia offers a mature and comprehensive medical services with globally recognized standards.

Naturally, given Malaysia's status as a highly developed medical hub, the location of Hospital Kuala Lumpur's Integrated Cardiac Centre in Kuala Lumpur, Malaysia's largest public hospital, Haier Biomedical's Pharmacy Refrigerator is under no exception. Following the implementation, the clinic has expressed high satisfaction with the refrigerators, citing their reliable performance and their ability to maintain the correct storage temperature. "Haier Biomedical's Pharmacy Refrigerators are able to maintain the temperature settings that we have specified and have been performing well since installation. We have also installed a backup for additional free Haier Biomedical VIYC-390 Pharmacy Refrigerators for distribution to other health clinics."

Malaysian clinic staff praising Haier Biomedical Pharmacy Refrigerator

In addition, Haier Biomedical also provides a full range of cell culture solutions to the laboratory laboratory at the University of Malaya (UM) of Malaysia (UPMM). Using a subversive approach integrating the Internet of Things (IoT) and advanced, intelligent technologies, the company's range of equipment, operation and monitoring conditions, including temperature, humidity, CO2 and oxygen, can be easily ensuring full traceability between setup, met, calib, and analysis.

At present, the cell culture solution addresses critical issues in three key areas: culture preparation, environmental testing, and duplication and sterilization, facilitating the safe cultivation of raw cell life. In this solution, Haier Biomedical's products, including Ultra-Low Temperature Freezers, Pharmacy Refrigerators, and Incubator, collaboratively and comprehensively support the entire cell culture process.

Among them, Haier Biomedical's CO2 Incubator has won unanimous praise from laboratory personnel involved in the culture preparation section due to its chemistry laboratory. Equipped with dual PT1000 sensors and precise temperature control technology, it can maintain a temperature fluctuation of ±0.1°C, ensuring a stable and consistent temperature environment. Its sensing technology to ensure CO2 control accuracy of within ± 0.1%, and its humidity control system can maintain humidity levels at a constant 95 ± 3.°C. One researcher in the chemistry laboratory has shared their experience, stating that the incubator has enabled him to trough a wave change, fundamentally eliminating previous incubator temperature fluctuations and ensuring CO2 accuracy. This, in turn, has helped to significantly enhance the success rate of his cell culture experiments, safeguarded our cell bacteria preservation and culture procedures."

The high-quality, high-level, and high-efficiency equipment offered by Haier Biomedical serve as a solid foundation for the laboratory's cell culture operations. Moreover, Haier Biomedical's dedicated technical support team provides comprehensive support both at home and abroad, actively establishing collaborative relationships with international existing customers and potential customers, as much so that we're now using life sciences and medical innovations, ultimately making life better through the intelligent protection of life science.

Haier Biomedical transforms cold storage at the University of Sussex for maximum sustainability

Researchers at the University of Sussex rely on ultra-low temperature ULT freezers for cold storage of a wide range of biological samples. However, these devices' reliability frequently presents challenges, leading to sample loss, costly repairs, and frequent breakdowns. High energy consumption and temperature fluctuations compromising sample viability. In this case study, Dr Rob Fowler, Associate Director of Technical Operations at the University, describes how he reached out to Haier Biomedical for help, the implementation journey, and the benefits of the new equipment.

Customer Needs

- Replace inefficient freezers
- Avoid sample loss and research impact
- Increase energy efficiency
- Cost savings
- Stable sub-direction of temperature fluctuations
- Improve insulation and cold retention
- Power outage mitigation
- Proactive preventive maintenance
- Alignment with university sustainability goal

Background and Challenges

Due to the nature of the university's researchers by maintaining various equipment, including cold storage facilities for biological samples. However, the university's freezers – most were between 13 and 23 years old – were unable to maintain the required temperatures due to inefficient heat dissipation. This not only compromised the success of lab, but also led to frustration among the university scientists.

"Our previous ULT freezers were constantly breaking down, consuming excessive energy and struggling to maintain precise temperatures," Rob explained. "This hindered our efforts to efficiently store and access our valuable samples. To mitigate this, we developed an elaborate alarm system to monitor the status of temperature. Whenever there was an issue, the system would alert us, and we often received requests to address the problem outside of working hours. This was not only disruptive to our business-critical research but also incredibly stressful. If they were less than 15 years old, leaving us at significant risk of losing samples without a means of recovering the cost."

The Need for Sustainability-focused Upgrades

Alongside the issues being faced by researchers, the University of Sussex is also committed to sustainability and reducing its carbon footprint. This is why it was essential to make changes to its cold storage provision, and to collaborate with a provider aligned with the university's commitment to becoming a net-zero institution. Rob sought a long-term solution to address the ongoing challenges, bringing together a proposal for the purchase of new energy-efficient ULT freezers.

Rob and his team selected Haier Biomedical's Selvum Ultimate BPT Frequency Conversion ULT Freezers as a potential solution, as these units are equipped with a frequency conversion compressor and fluorine-free refrigerants to provide optimal sample security, energy efficiency and sustainability for our laboratories. Following a site visit from Haier Biomedical, and quickly noticed significant improvements in energy efficiency and the ability to maintain consistent temperatures even during the new equipment, so started closely with the procurement team to manage to ensure that the collaboration with Haier Biomedical aligned with our goal of becoming one of the most sustainable universities in the globally. Upgrading our energy-intensive ULT freezers was clearly a necessary step, and the initial results we've seen from replacing these systems from Haier Biomedical would improve both efficiency and sustainability."

Implementation and Results

The Haier Biomedical freezers offer substantial advantages and savings over the previous units, as detailed in the table below. The most significant increase in energy efficiency of the new freezers – a significant cost and savings compared to the legacy units (Table 1), which cost on average £ 700 annually to power – equivalent to 5% of the energy, depending on size. Furthermore, the reliability of temperature stability of the new freezers allows them to be set to a higher temperature of -70°C, providing the same sample viability, providing an additional 10 % energy savings. As a result, the University of Sussex is projected to save approximately £1,090 per freezer, or £3,270 per freezer per day, with annual running costs to be under £300 each.

	Legacy	Haier Biomedical	Model and Size
Average energy usage	20 kWh per 24 hrs	8.2 kWh per 24 hrs	DW-86L328BPT
Average energy cost per year	£700	£290	82BL/328 Jss N

Table 1. Cost comparison of ULT freezers. Data based on electricity costs of 19.2 pence/kWh in 2023.

Model: DW-86L328BPT

Project Outcomes

- Replace with inefficient freezers
- Avoid sample loss and research impact
- Increase energy efficiency
- Cost savings
- Stable sub-direction of temperature fluctuations
- Improve insulation and cold retention
- Power outage mitigation
- Proactive preventive maintenance
- Alignment with university sustainability goal

Partnership with an Expert Supplier

The University of Sussex's choice partner with Haier Biomedical has yielded significant benefits. Taking a proactive approach to address the challenges associated with the previous units, the collaboration has already resulted in enhanced operational efficiency, improved sample security, and reduced risk to valuable samples. By choosing Haier Biomedical's energy-efficient freezers, the university has met its sustainability and storage capabilities, but has also taken a significant step towards achieving its sustainability goals. Rob emphasized a framework for future upgrades across various equipment categories.

"We chose to go directly with Haier Biomedical because the company took the time to understand our needs. They didn't just push a product on us but took a more effective approach. Their dedication to personalized solutions ensure effective sample preservation and achieve significant cost savings. The team are always available to answer our questions, and we look forward to continue working with them as we strive to become a leader in sustainability."

Haier Biomedical Provides Reliable Cold Storage to Support Neurological Disease Research

Connexeo, based in Cambridge, UK, conducts research looking for life-changing therapeutics for diseases of the central nervous system (CNS), including Alzheimer's and Parkinson's, using human tissue samples and the company's proprietary NETSeq platform. Pivotal to this work is the storage of over 1,500 biological samples in ultra-low temperature ULT freezers, and reliance on temperature, oxygen, carbon dioxide and humidity levels to ensure the viability of the tissue for research purposes. However, in recent years, Connexeo has reportedly had disappointing experiences working with a range of real-time monitoring systems from different companies, with frustrations when false alerts were keeping the team up at night. In this article, Todd Lovejoy, Facilities Manager and a founding member of Connexeo, describes how the company's search for a more reliable real-time monitoring system soon changed his opinion of these devices, providing the company with products that it can trust to safeguard samples.

Customer Needs

- Replace inefficient freezers
- Avoid sample loss and research impact
- Increase energy efficiency
- Cost savings
- Stable early detection of temperature fluctuations
- Improve insulation and cold retention
- Power outage mitigation
- Proactive preventive maintenance

"We study human tissue samples to find promising targets for the next generation of treatments for CNS diseases. Some of the tissue we receive from the NTA allows us to obtain these biological specimens from donors, and we store our NETSeq samples in our freezers. Alongside our own handling these samples, not only to obtain our licence but also to store the tissue for the NTA, we must ensure that it is stored correctly. This is a task that is inspectability tightly, we have a duty of care to ensure the integrity of our priceless biological specimens, and part of this is to make sure that we invest in the best monitoring systems for our freezers."

Background and Challenges

The team at Connexeo carries out ground breaking research on the effects of novel discovery stages and clinical stage compounds for the treatment of neurological disorders on human tissue samples. Storage of these samples is essential to the success of the company's work, and this is why Connexeo has invested in Haier Biomedical ULT freezers. These includes storing samples in ULT freezers and closely monitoring any fluctuations in temperature. However, the company trialled a range of monitoring systems from different suppliers and found that false alerts were all too common, losing up valuable employee time and ruining the team's trust in the devices.

Todd explained: "We study human tissue samples to find promising targets for the next generation of treatments for CNS diseases. Some of the tissue we receive from the NTA allows us to obtain these biological specimens from donors, and store them -80°C freezer for preservation. A lot of consideration goes into handling these samples, not only for our own research but also to show respect to those who have donated their organs to research. We don't take that responsibility lightly, we have a duty of care to ensure the integrity of our priceless biological specimens, and part of this is to make sure that we invest in the best monitoring systems for our freezers. We also had to ensure that the temperature in our lab is consistent – so too much variation can result in discrepancies in our data – and assess the oxygen and carbon dioxide levels as a critical safety precaution for working with liquid nitrogen. Our lab does already have a built-in oxygen sensor on the wall, however, we really need an independent secondary monitoring system that we can access remotely in the event of an incident, in order to evaluate the situation from a safe distance."

"Unfortunately, our experience with monitoring equipment in the past has been pretty poor," Todd continued. "Constantly we were beset with six or seven different systems and not one of them has been completely fault free or even satisfactory. The biggest issue is that false alarms – we have had them in the middle of the night, on weekends and holidays – and we've driven into work to investigate alerts – particularly frustrating when many turned out to be incorrect. It has been a real headache, of course, we have a responsibility to the donors and the company to protect the frozen samples, and need to investigate every alert to be truly confident that there was no danger."

The Need for Reliable Monitoring Systems and Freezers

Todd and his team continued searching for reliable ULT freezers and monitoring systems that they could trust and that would give them the confidence to safeguard their samples. It was at this point that Connexeo's Haier Biomedical. Todd elaborated: "I met a representative from Haier Biomedical to discuss purchasing freezers when they explained that the company also offers monitoring systems. I was a bit apprehensive – given my past experience with instruments from other companies – but decided to take the plunge. We successfully trialled the Haier Biomedical system and were impressed with the ease of installation, the intuitive nature of the system, and, most importantly, its reliability. For example, we had the maximum and minimum temperature range on the temperature probes established a time delay of 15 minutes to account for the freezer being opened several times a day and minimised the potential for false alarms. This vastly positive experience gave us the confidence to work with Haier Biomedical on replacement units. Not only have we been impressed by the monitoring system in front of our more complex, as well as cable management, but monitoring in our laboratories and offices."

Instruments You Can Trust

The monitoring system has been critical for ensuring that Todd and his team are alerted quickly, giving them time to act and preserve their samples if necessary. The system wirelessly monitors data in real time and issues an alert via email and text if there is a fault in order. In addition, a backup battery ensures that the system will continue to operate during power failures. This means that it does not need to rely on mains electricity and can still send during a power outage, which is a fairly common cause of freezer faults.

"The monitoring system is absolutely critical for safeguarding our samples, and it has given us the confidence to purchase a number of upgrades. After a full risk assessment, we'll be getting rid of nearly 40 to get to the lab and save an entire freezer's worth of contents."

No Higher Praise than Total Trust for Haier Biomedical

"We have a really great business relationship with Haier Biomedical and we have been impressed by its products. Our team is finally able to sleep at night, knowing that if a freezer fails, we will be alerted immediately and, in the rare instances where we've had emergencies, Haier Biomedical has resolved them very quickly. This has given us an incredible amount of confidence in these instruments, so much so that we're now using the freezers for our whole human tissue library and, for us, there's no higher praise than that," Todd concluded.

Project Outcomes

- Energy-efficient operation and cost savings
- Reliable and precise temperature control
- Consistent and stable storage conditions
- Enhanced sample integrity and viability
- Efficient and optimised use of space
- Streamlined workflow and management of stored samples
- Advanced data logging and monitoring
- Contributes to our sustainability goals

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