

The Importance of Temperature Monitoring for COVID-19 Vaccines!

The roll out of UK's COVID-19 mass vaccination program has been progressing well, and more than 6.5 million people up to now have received their first dose. The key point to achieve these goals is the temperature storage of the vaccine, which plays a crucial role in the whole process.



Image Source: <https://www.insurancejournal.com/news/national/2020/12/04/592696.htm>

According to the data from the WHO, due to the lack of temperature control or continuous cold chain during vaccine transportation, 5-20% of vaccine deterioration usually occurs. The government of UK has allowed 5% of inevitable waste in its vaccine program. Nicola Sturgeon, the Chief Minister of Scotland, revealed that so far, 1% of all vaccines stored in Scotland have been wasted. Outside UK, as many as up to 50% of vaccines have been wasted in some areas. This means if deflection occurred during cold chain transportation, it will further increase pressure on production capacity.

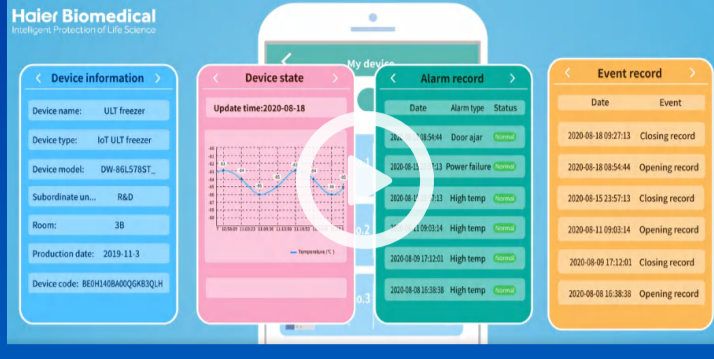


Image Source: <https://www.japantimes.co.jp/news/2020/11/25/national/science-health/japan-experts-coronavirus-vaccines-safety/>

This waste is mainly due to temperature changes in the complex cold chain. In order to reduce the waste and continue to track the vaccine temperature across the entire cold chain, Haier Biomedical has launched the vaccine complete cold chain product solution, amongst which, the RTMD (Remote Temperature Monitoring Device) that meets the WHO/PQS standard can be used with vaccine transportation and storage equipment, collecting the vaccine temperature data during transportation and storage in real time, and it is equipped with acousto-optic alarm function. The device measures the temperature through an external temperature sensor, automatically records and stores the measured temperature value, and it only needs 2G signals to transmit data to the cloud platform, ensuring vaccine/sample safety from remote platform monitoring. The remote portal management platform can track temperature, location and location signal strength information and provide multiple data analysis reports to meet CQC audit requirements. The system can also operate autonomously without any integration with the existing IT infrastructure.

In addition, Haier Biomedical's Ultra-low Temperature TwinCool system refrigerator can achieve dual vaccine protection. If one of the refrigeration systems fails, the other system will automatically operate and stabilize at -80°C storage environment to maximize vaccine safety. More importantly, Haier Biomedical's Ultra-low Temperature (ULT) refrigerator can be equipped with an Internet of Things (IoT) module to achieve real-time monitoring of samples.

Let's take the latest ULT Freezer Low Energy Touch Screen Series as an example, through the 10-inch touch screen, the inside temperature and temperature curve in the cabinet can be displayed intuitively. It also has high and low temperature alarms, sensor failure alarms, power failure alarms, door ajar as key examples, and the team members who manage the vaccine can be contacted by e-mail, SMS and other methods in real time.



Video link: https://www.haiermedical.com/en/support/productVideo?id=1356509183547633666&lang=en_EN

At present, Haier Biomedical has formulated solutions to overcome any possible problems encountered by vaccines in various temperature regions, providing security and guarantee for stable vaccine transportation, preservation, management and monitoring to inoculation. At the same time, considering the requirements of different regions and markets, Haier Biomedical provides multiple options and customized solutions to meet all vaccine safety requirements.



Video link: https://www.haiermedical.com/en/aboutUs/videoDetail?id=1346312144079622145&lang=en_EN

Focusing on biosafety and biomedical needs and requirements across multiple user needs, from vaccine cold storage, vaccine refrigerator, cold chain temperature monitoring system to vaccine logistics and transportation, Haier Biomedical insists on the intelligent protection of life science, by empowering science and technology, and is committed to providing you with the best biological sample cold chain process solution!

This is How Australia Plans to Keep the New Pfizer Vaccine at -70°C

Haier Biomedical's Ultra-Low Temperature Freezers are being used for Australia's first shipment of the Pfizer vaccine, playing a vital role in the country's COVID-19 vaccination program.

Australia's first shipment of the Pfizer vaccine is currently being stored and will be distributed in top secret by global logistics firm DHL since it touched down from Belgium last week. This batch of Covid-19 vaccine must be stored below -70°C before being distributed to 200 cold storage facilities around the country, DHL has revealed.

It has been described as the 'largest logistics program' for DHL in Australia's history, the logistics giant will store hundreds of thousands of doses of the vaccine in specialised freezers in a secret location at a covert warehouse to make sure they stay safe and secure at the right temperature to ensure the stability of the vaccines.



Pfizer says after storage for up to 30 days in their thermal shipper, their vaccine can be stored for an additional five days at 2-8°C. Once thawed or used, it cannot be re-frozen and stored. The ultra-cold temperature requirement makes transporting and storing problematic and difficult.

Ultra-Low Temperature refrigerators and transport coolers are the key to solving the nightmare of storage and logistics for these vaccines. Within this strategy in Australia, Haier Biomedical's Ultra-Low Temperature Freezers are being used and will play a vital role in the complete process for the vaccination program.

The choice of Haier Biomedical solutions is due to its superior product performance: guaranteed temperature uniformity, the TwinCool refrigeration system, and through the Internet of Things, it achieves full monitoring and alarms to maximize vaccine safety.



In addition to the strict requirements for -70°C in the storage and transportation of the mRNA Covid-19 vaccine, Haier Biomedical has formulated solutions to overcome any possible problems encountered by vaccines in different temperature ranges of -70°C, -20°C and 2-8°C respectively, providing security and guarantee for stable vaccine transportation, preservation, management and monitoring to inoculation. At the same time, considering different region's needs, Haier Biomedical provides multiple solutions for different countries to meet their vaccine safety requirements. To date, Haier Biomedical has successively provided COVID-19 vaccine product solutions for the United States, the Czech Republic, Yemen, Vietnam, Singapore, the Philippines, Costa Rica and many other countries, and has been greatly recognized as the right choice for the storage and distribution of COVID-19 vaccines.

Haier Biomedical insists on the intelligent protection of life, by empowering science and technology, and is committed to providing the best biological cold chain products and solutions to the world, enhancing the safety and protection of all vaccines!

Case Study

New Cabinet Installed EO Labs Scotland

EO Labs are a leading private manufacturer of culture media, producing culture media plates for medical devices to go into NHS and private laboratories. One of their facilities required a new unit following the failure of an existing safety cabinet, making prompt delivery particularly important.

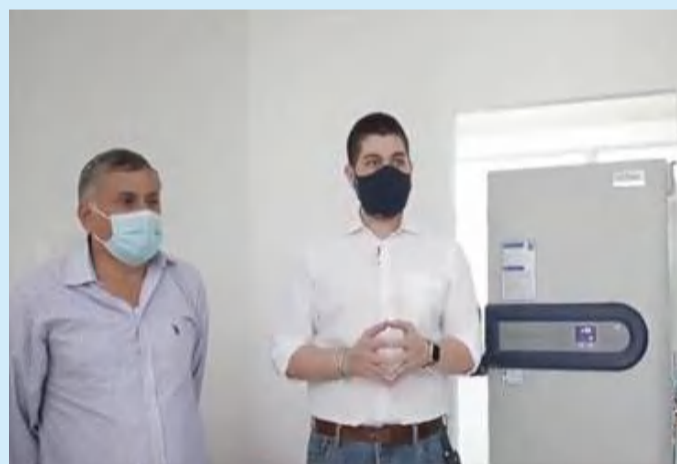


EO Labs approached their supply partner, who determined the Haier Biomedical model HR900-II-A2 met the client's brief both in terms of specification and availability.

The HR900-II-A2 is the smallest Class II microbiological safety cabinet available from Haier Biomedical and includes patented airflow and UV lamp technology, low energy fans and intelligent mode for energy conservation. The unit is supplied with an adjustable stand, 2 x IP44 rated power sockets and UV lamp as standard. Click for more information on the HR900-II-A2 bioafety cabinet.

Installation and delivery looked to be difficult as there was only one entrance suitable to take the cabinet into the building, however, where there's a will there's a way. Thanks go to Paul Mckinnon of EO Labs who organised modifications to accommodate the installation, removing the handrails outside the building and part of a wall and unit for the cabinet to fit. Working with our logistics partners, the cabinet was able to be lifted to the same height as the ramp, moved across and inside the building. The commissioning was successfully completed.

Colombia Vaccination Program



Haier Biomedical assists Colombia with its COVID-19 vaccination program, 5 sets of ULT freezers was assembled at the National University of Colombia Medellin Campus, when the vaccines arrive, the ULT freezer can store about 240,000 doses of vaccines.

The Haier Biomedical Chengdu Liquid Nitrogen Production Facility!



- * 2 major manufacturing workshops and 18 production lines.
 - * 20+ patents, 6 invention patents, 10+ software copyrights & 22 utility model patents.
 - * Certified by the European Union CE and MDD.
- We are committed to becoming the world's largest liquid nitrogen manufacturer & service provider.
- Learn more about the right solution, contact us now!

Haier Biomedical Liquid Nitrogen Container Product Portfolio



Biobank Series



Biobank Series



Medium Series



Small Sized Series



Transportation Series



Self-pressurized Series

New Product Display

Smart Autonomous Disinfection Units

Robotic Mobile Hygienic Spray Carrier

Product Advantages

- ☑ Scheduled disinfection tasks
- ☑ Autonomous obstacle avoidance
- ☑ Autonomous navigational system
- ☑ User remote deployment
- ☑ Super large laser mapping - 40,000 square meters
- ☑ Automatic return to charging station
- ☑ Automated settings for disinfection tasks



Scope of Application

The unit is primarily used for daily disinfection of public places such as hospitals, community health service centers, airports, hotels and subways.

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