

Jimmy Kollmer
National Cold Chain Manager
Polar Leasing Company



Exploring the Future of Rental Cold Storage in Life Sciences



A Look Back

The significance of temperature-controlled systems in safeguarding the efficacy of pharmaceutical products was highlighted during the COVID-19 pandemic. To ensure compliance with regulatory requirements, cold storage chambers are crucial for monitoring and maintaining quality. As new medical technologies emerge, it is more imperative than ever for pharmaceutical companies to prioritize safe and secure product storage using dependable refrigeration methods.



The pharmaceutical industry, like the rest of the world, was caught off guard and unprepared for the unexpected global virus outbreak. As scientists raced to develop a vaccine, pharmaceutical companies and vaccine distributors prepared to shoulder the critical responsibility of securely storing these lifesaving vaccines. As a result, the demand for reliable, advanced, and readily available walk-in units that comply with strict storage requirements increased, thereby raising the awareness and popularity of rental options.

Growing recognition of the significance of temperature control in preserving vaccines coincided with a wider recognition among life science companies about the potential of rental solutions across the entire cold chain, including research and development, clinical trials, preconditioning of gel packs, and transportation.

There was a misbelief previously that rental cold storage walk-in units could not offer the same benefits and features as permanent solutions. Now there is a greater realization that rental units are manufactured to the same rigorous standards as their permanent counterparts.

APPLICATIONS

- Biomaterials
- Research and development
- Clinical trials
- Bulk drug storage
- Vaccine storage
- Packaging facilities
- Gel Pack/PCM conditioning
- Overflow capabilities
- Seasonal and transport storage

PLC Features and Benefits



Temperature Control

Rental units are equipped with temperature control systems that ensure a stable and consistent temperature. Monitoring options are available to add a layer of security and assurance.



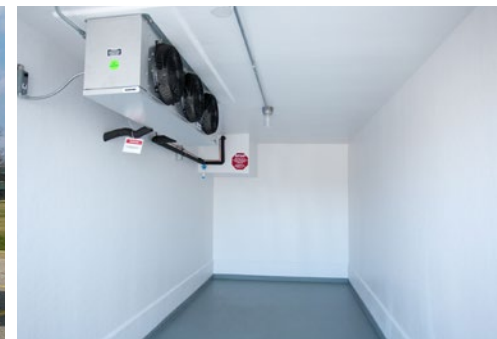
Space-Saving

Walk-in refrigerated and freezer rental units provide a space-saving and efficient alternative to other cold storage solutions, such as reach-in freezers. These units offer increased storage capacity and better control over internal temperature, allowing for proper rotation of stored products.



Flexibility

In terms of cold storage, flexibility is crucial for businesses, whether it pertains to the storage space, the unit's location, or the financial arrangements. Renting a walk-in unit provides a flexible solution that enables businesses to adapt to changing supply and demand needs. As a rental provider, Polar Leasing Company offers custom solutions tailored to each company's unique requirements, rather than a one-size-fits-all approach.



Emerging Trends

Since the onset of the pandemic in 2020, Polar Leasing has observed various pharmaceutical industry trends that have gained momentum. In particular, there has been a notable increase in demand for stability chambers and ambient rooms for room-temperature storage.

Stability chambers are a critical component of pharmaceutical testing, allowing companies to assess the effects of various environmental factors on drugs before introducing them to the market. These chambers are designed to meet precise temperature requirements and are essential for evaluating the impact of factors like temperature, light exposure, and humidity. In quality control, consistency and reliability are paramount, and stability chambers help ensure that the testing process is specific and accurate.

Ambient rooms, also referred to as room-temperature storage, offer clean and dry storage in a controlled environment with temperatures typically ranging between 59°F and 77°F (15°C to 25°C). Although similar to stability chambers, ambient rooms are less technologically advanced and provide a simpler and less adjustable room-temperature setting.

Innovations of Today and Tomorrow

Polar Leasing recently won an industry award for its technological advancements in walk-in units that cater specifically to the life sciences sector.

Since 2022, Polar Leasing has integrated KE2 Therm Solutions monitoring equipment into certain walk-in units to provide enhanced temperature control and monitoring capabilities. The WL820 Temperature Controlled Cold Room and DT820RP Redundant Walk-In Cooler and Freezer are equipped with KE2 Therm Solutions technology that gives customers the power to remotely monitor and log temperature data around the clock. The advanced monitoring features of these rental walk-in units facilitate the maintenance of optimal product conditions by authorizing users to quickly identify and address any issues in real-time.

The [WL820 Temperature Controlled Cold Room](#) is an 8'x20' ground-resting unit designed specifically for the pharmaceutical cold chain, with temperatures ranging from 0°F to -22°F.

The [DT820RP Redundant Walk-In Cooler and Freezer](#) is engineered for customers with precise temperature requirements.

Temperature validation and redundant refrigeration systems are standard features in every Polar Leasing unit, guaranteeing product safety and efficacy. The implementation of remote monitoring capabilities through KE2 Therm Solutions technology permits real-time temperature tracking and data logging, providing customers with quantifiable evidence of their products' safety and effectiveness. This data also allows for the identification of specific equipment failures, even in cases of brief malfunctions.



Validation reports are crucial in the life sciences industry, and Polar Leasing certifies that all their walk-in units arrive pre-validated. The company uses Vaisala VaiNet Wireless Temperature Data Loggers to validate temperatures at multiple points within the walk-in units before shipping them to customers nationwide. The upgraded equipment allows for real-time tracking and graphical outputs for various validation test protocols. After validation, customers receive a comprehensive report that includes a summary, full temperature logging data, and sensor locations. Additionally, custom testing protocols can be tailored to the specific needs of customers.

Challenges and Opportunities

One of the most common concerns expressed by pharmaceutical experts is the need for immediate and compliant access, as well as contingency plans in case of emergencies or malfunctions. These issues arise on a weekly basis, emphasizing the importance of having a reliable backup plan in place.

Rental options are proving to be an effective solution for the challenges posed by planned projects, shutdowns, and additional new projects anywhere immediate compliant cold storage is necessary.

Conclusion

The life sciences sector is increasingly adopting rental cold storage solutions to ensure secure product storage and reliable refrigeration methods. Compared to traditional cold storage alternatives, rental walk-in units provide greater storage capacity and improved control over internal temperature, while also offering efficiency and flexibility. Polar Leasing Company is at the forefront of this trend, incorporating cutting-edge technology like KE2 Therm Solutions monitoring equipment for remote monitoring and logging of temperature data. The company also offers pre-validated walk-in units and custom testing protocols set to each client's specific requirements. With rental options, clients can address concerns such as immediate access, compliance, and contingency plans in case of emergencies or malfunctions, providing a dependable backup plan. The growing demand and acceptance of rental cold storage solutions are promising for the future of the life sciences industry.



ABOUT POLAR LEASING COMPANY

In early 2002, Polar Leasing Company, Inc., was created by Polar King to accommodate the growing demand for walk-in refrigeration rentals. It has expanded its walk-in rental fleet to cover most of the United States and other parts of North America, offering both short- and long-term rentals to industries of all types. Within the last five years, we began the process of building a specific division dedicated to Life Science Supply Chain. Polar Leasing offers the largest all-electric fleet of temporary refrigeration, with more than 80 distribution depots and a 24/7 service hotline.

For more information, visit polarleasing.com or contact Polar Leasing, 4410 New Haven Ave, Fort Wayne, IN 46803 USA. In an emergency, call (877) 674-1348 or write rentals@polarleasing.com.