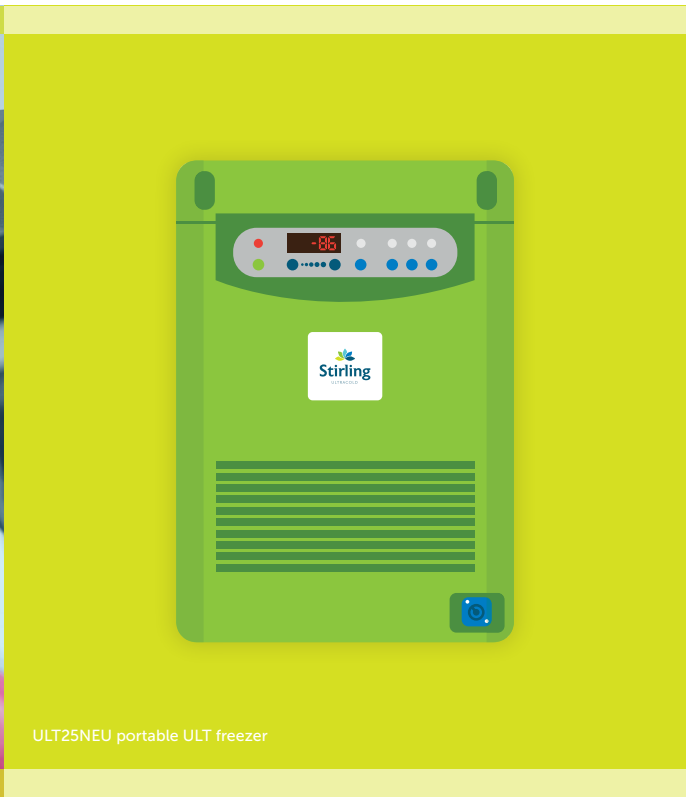
AMNIO TECHNOLOGY CASE STUDY

Stirling ULTRACOLD



ULT25NEU portable ULT freezer

STIRLING ULTRACOLD HELPS REGENERATIVE MEDICINE PROVIDER INCREASE SALES BY 30 PERCENT

Phoenix-based Amnio Technology, LLC develops a variety of regenerative and wound care therapies by minimally manipulating amniotic fluid. Once the company produces these products, they ship them to clinics across the country where physicians use them to help patients reduce pain, restore damaged tissue, and enjoy a higher quality of life.

Like most biological materials, Amnio's products must be stored at ultra-low temperatures (ULT): -20°C to -86°C. Properly storing these materials is essential, not only from a product viability and safety standpoint, but also from an economic one. Because these therapies cost between $600 and $2,000 per dose, product losses due to improper storage can have significant financial consequences for clinics.

To ensure the safe long-term storage of its products, Amnio Technology purchases ULT freezers and sells these units to its physician and clinic customers. These freezers must meet specific requirements, including:

RELIABILITY

The freezers must maintain a constant temperature of -80°C to ensure the safe long-term storage required for Amnio's therapies. The units must also quickly recover to the required temperature after the freezer lid is opened, or if power is briefly interrupted due to relocation.

SMALL SIZE

Many clinics face space limitations, so the freezers must be small enough to fit under a desk or on a counter in a practitioner's office. They must also be lightweight and portable, so physicians can move the freezer to different facilities or between rooms at one clinic.

OPTIMIZED STORAGE CAPACITY

Although the freezers need to be compact, they also must have enough storage capacity to maximize the number of doses delivered to sites while minimizing the need for additional freezers.

SOLUTION

Five years ago, Amnio Technology turned to Stirling Ultracold for a portable, extended cold storage solution, the ULT25NEU ULT freezer (formerly known as the "Shuttle"). Over that time, Amnio has acquired 90 ULT25 freezers and made these available to its customers.

The ULT25 is a portable, easily shipped ULT freezer that provides stable operation from -20°C to -86°C. Weighing only 46 pounds, the lightweight freezer uses a surprisingly compact free-piston, compressor-free Stirling engine, which allows such a high storage volume for its size while maintaining steady-state temperatures within +/- 1°C of a selected setpoint.

The freezer requires no special power requirements and plugs into any standard AC outlet worldwide. It can even plug into a vehicle's 12VDC cigarette lighter adaptor for power during transport. For use in locations not equipped with electricity or during power outages, users can run the freezer by connecting it to a small, inexpensive generator, like those readily available from any hardware store.

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RESULTS

Amnio Technology realized multiple benefits when they replaced their legacy, compressor-based ULT freezers with Stirling Ultracold's ULT25 portable units. These benefits translated into advantages for Amnio's practitioner and clinical customers as well.

INCREASE REVENUES BY 30 PERCENT

The ULT25 can store 40 units of Amnio's therapies, compared with the 25-unit capacity of other, non-portable undercounter freezers. With the larger storage volume, Amnio's clinical users can purchase more products for on-site storage. This has resulted in a 30 percent increase in sales for Amnio Technology.

ENABLE PROVIDERS TO SELL MORE THERAPIES

Amnio's practitioners report they can lose up to 50 percent of potential patient treatments if therapies are not immediately available on-site, as patients are more willing to purchase treatments at the time of their visit rather than scheduling a follow-up appointment.Storing products on-site in ULT25 freezers enables practitioners to treat these patients on demand and sell more therapies.

EASILY TRANSPORT THERAPIES

Practitioners can plug the freezer into a vehicle's 12-volt auxiliary power outlet to operate the unit and maintain consistent temperatures while in transit. This ability keeps therapies safe should practitioners need to transport them from one clinical site to another. Amnio's previous freezers weighed 400 pounds and could not be moved from the clinic without substantial cost. The ability to transport therapies to multiple sites also eliminates the need to purchase individual ULT storage freezers for every clinic location.

CREATE SAFER EXTENDED STORAGE CONDITIONS

Amnio's previous compressor-based freezers took 14 hours to go from room temperature to -80°C. While waiting for these freezers to reach the proper temperature, clinics stored Amnio's products in dry ice. The ULT25 can go from room temperature to -80°C in just four hours. Getting the therapies to the proper storage temperature more quickly reduces the reliance on dry ice, which produces varying storage temperatures as it sublimates. The ability to transfer Amnio's products to a freezer faster minimizes the risk of product losses caused by fluctuating dry ice temperatures or employees forgetting to remove therapies from dry ice while waiting for a freezer to pull down to temperature set point.

INCREASE PATIENT CARE SPACE

Because the ULT25 can fit under a desk or counter in a practitioner's office, clinics do not need to sacrifice patient care space to accommodate dedicated space for permanent undercounter ULTs or a large, stand-up ULT freezer. By turning to the industry's only truly portable and deployable ULT freezer, Amnio Technology improved the availability of their therapeutic products to practitioners. Increasing availability allowed practitioners to treat more patients, which translated into more sales and increased revenue for Amnio. Further, the ULT25 improved product safety, reduced product losses, and lowered costs overall.

To learn more about Stirling Ultracold's ULT25 ultra-low temperature freezer, visit:

stirlingultracold.com

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