



FARRAR + GRAM COLLABORATION YIELDS FAST TURN, SMALLER FOOTPRINT AND PRECISE CONTROL



CHALLENGE

In late August 2022, Grand River Aseptic Manufacturing (“GRAM”), needed commercial-scale, ultra-low-temperature capacity units at -50°C delivered in-house immediately to store forthcoming raw materials. A typical timeline for commercial-scale cold-capacity solutions can run months at a time, which would not meet GRAM’s needs. GRAM is a leading parental contract and development manufacturing organization that meets clinical and commercial fill-and-finish needs.

Units were needed to store vaccines for a potential fast-growing disease threat that required very rapid operational readiness. While GRAM had existing ultra-low temperature cold-wall freezers rated for -80°C , the existing freezers could not meet uniformity requirements at -50°C .

Further complicating the situation, the available space for the new freezers was limited, so the storage solution would require substantial density in a smaller-than-usual footprint. Lastly, due to the value of the stored product, the solution would need to offer operational redundancy.

GRAM also wanted a solution that would offer integrated redundancy so they could avoid the extra expense and footprint needed to keep just-in-case back-up freezers running. GRAM reached out to FARRAR™ to help them meet the challenge. FARRAR offers walk-in and reach-in ultra-low temperature solutions for manufacturing, freezing, and storage of medicines, vaccines, and other life science products.

SOLUTION

Both companies joined forces to execute within an extremely aggressive, six-week timeframe. After an initial phone call on August 24, the two organizations worked to finalize a purchase order before meeting for the first time in person on August 31.



During their initial meetings, the teams firmed up all project details, including freezer logistics, timeline, and implementation.

Based on their needs and discussion with FARRAR, GRAM selected three 190-cubic Ultra Low Chamber (ULC) units which provide multiple benefits:

- **Precise temperature control** – The only forced-air/convection-cooling capabilities on the market, the ULC units enable precise temperature control
- **Small footprint** – These 190-cubic-foot units fill the space of a conventional smaller 150-cubic foot unit, requiring only 47 sq. ft./4.36 m² of space
- **Fast temperature recovery** – The ULC units offer the industry's fastest temperature recovery from door opening
- **Sustainable** - Designed with energy balance and sustainability in mind, these ULCs offers dynamic refrigeration control and low energy consumption (0.33 kWh/cubic foot per day).
- **Redundancy** – The units offer 2N redundancy as each chamber is equipped with a dedicated refrigeration system that can cool the entire unit should one of the refrigeration systems go down.

QUICK-TURN MANUFACTURING

FARRAR was able to support this delivery schedule due to the modular design and innovative project delivery of the manufacturing and service staff.

INSTALLATION PREPARATION

The GRAM team prepared to receive the freezers by lining up riggers that would lift them directly into the second story of their facility. Having pre-determined specific shelf locations for the three freezers, the team then brought electrical power to the locations. They also ensured that Environmental Monitoring System cabling and sensors were at-the-ready to terminate into the equipment to allow quick equipment power-up and to start cooling down to setpoint immediately.

QUICK-TURN SET-UP, INSTALLATION AND QUALIFICATION

The units were shipped on September 9, and the installation team started freezer set-up on September 12. FARRAR supported GRAM with expedited installation qualification/operational qualification (IQ/OQ) documentation so that immediately following start-up and commissioning, GRAM was able to execute IQ/OQ validation to ensure compliance with regulatory requirements and industry standards.

RESULTS

The GRAM/FARRAR cross-company project team quickly established trust and developed a cadence that enabled them to smoothly execute a typically long-cycle delivery quickly, safely, and consistently to meet GRAM's needs for quality and performance.

GRAM can now maintain required raw materials at a precise -50°C while counting on fast-temperature recovery from door opening in its sustainable, small-footprint solutions.

Additionally, GRAM deploys 2N redundancy on each chamber, as opposed to running an empty spare. GRAM started storing product storage on Sept. 19. Counting back from the original phone call, storage began 26 calendar days or 18 business days after the call (including a national holiday).

"GRAM's core values of collaboration and customer service support our team in making decisions swiftly," said Matthew VanGessel, Senior Manager of Capital Projects and Expansion at GRAM. "In a matter of weeks, the FARRAR and GRAM teams went from placing the order to installation, qualification, release, and use of the -50C freezers. The strength in partnership and culmination of responsive communication and coordination between the two teams resulted in the expedited outcome."

"The entire FARRAR team takes pride in supporting a pressing human health issue by delivering these units at such an unprecedented pace, especially given the supply-chain challenges of the past year," said Holly Paeper, President, Life Science Solutions and FARRAR.

ABOUT GRAND RIVER ASEPTIC MANUFACTURING, INC.

Grand River Aseptic Manufacturing, Inc., a Grand Rapids, Michigan-based prominent parenteral drug contract development and manufacturing organization with advanced technology, delivers customized solutions to meet clients' fill and finish needs from development through commercialization. With capabilities for biologics, small molecules and vaccines, Grand River Aseptic Manufacturing's elite equipment and staff supports pharmaceutical development and cGMP manufacturing, analytical testing, and regulatory filing.

ABOUT FARRAR

Headquartered out of Davidson, North Carolina, **FARRAR**, a brand of Trane Technologies, a global climate innovator, focuses on meeting the rapidly growing demand for ultra-low temperature processes, specifically in the walk-in and reach-in manufacturing and storage of medicines, vaccines, and other life science products.

LEARN MORE

about FARRAR's Predictive Analytics and
other Conditional Preventive Maintenance components and offerings.

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