FARRAR™

REFRIGERATION SOLUTIONS FOR LIFE SCIENCE APPLICATIONS

TRANE TECHNOLOGIES™

MEETING THE RAPIDLY GROWING DEMAND

FARRAR™, powered by global climate innovator, Trane Technologies, focuses on meeting the rapidly growing demand for low and ultra-low temperature processes involved in the manufacturing, freezing and storage of medicines, vaccines, and other life-science products.

We bring value to global customers through our powerful portfolio of solutions, predictive monitoring capabilities, and robust services. Collaborating with each customer, FARRAR tenaciously tackles unique +40°C to -86°C temperature storage challenges — based on application, product/substance/sample requirements and workflow demands.

FARRAR'S CONSULTATIVE APPROACH

Whether an application requires reach-in or walkin solutions – or both, FARRAR™ is all in. Drawing from years of industry experience as trusted advisors and collaborative consultants, we start with a customer's temperature-driven need, then apply our deep application knowledge.

From new construction to facility expansion or renovation, we integrate with your team to drive success at every level to help you achieve your project and sustainability goals - on time and on budget.

DEPEND ON US FOR:

- Refrigeration expertise
- Commitment to quality and excellence
- One contact: many solutions

APPLICATIONS WE SERVE

When it comes to protecting Life Sciences' most valuable and fragile materials, our offerings include proven solutions for:

- Pharmaceutical manufacturing
- Biopharmaceutical manufacturing
- Bio-repository (bone, bone tissue, etc.)
- Clinical (blood, plasma, etc.)
- Bio-logistics
- Research/Academia

FORCED AIR CONVECTION: AN INDUSTRY GAME CHANGER

FARRAR™ pioneered forced air convection technology in its reach-in chambers. The key differentiator affects uniformity. Our chambers uniformly force air — at the targeted temperature — throughout the chamber. The result? FARRAR freezer and freeze/thaw equipment is up to 10 times more efficient at removing heat than the traditional cold-wall heat displacement process. But we didn't stop there. Recovery from door opening is critical to helping ensure product integrity. FARRAR ULC Series chambers' dual refrigeration units recover to -80°C in less than 25 minutes from a 1 minute door opening, versus several hours experienced with competitor solutions.

FORCED AIR CONVECTION IS AVAILABLE IN OUR REACH-IN SOLUTIONS:

ULTRA-LOW TEMPERATURE FREEZERS

FREEZE/THAW RATE CHAMBERS

LAB GRADE REFRIDGERATORS

LAB GRADE FREEZERS

ULC SERIES CHAMBERS

Purpose-built for life science applications, FARRAR's ULC Series including the Ultra-Low Chamber (ULC-190), Ultra-Low Chamber (ULC-311), and the new Ultra-Low Chamber (ULC-259) are the only +2°C to +8°C and -20°C to -80°C, forced air, ultra-low-temperature freezers on the market with air and water-cooled options.

Gain peace of mind: FARRAR™ ULC units can help ensure temperature uniformity and up to 10 times faster temperature recovery while conserving footprint, increasing yield, and offering full redundancy - alleviating the need for empty backup freezers that waste budget and space.

BENEFITS INCLUDE:

OPTIMIZED FOOTPRINT
Up to 50 percent less floorspace vs standard ULT configurations with six times the capacity (one ULC = six ULTs)

INDUSTRY'S FASTEST TEMPERATURE RECOVERY
Up to 10x faster temperature recovery from door opening helps ensure product integrity

INTEGRATED FULLY REDUNDANT (CONTROL, REFRIGERATION, AIRFLOW AND POWER) SYSTEMS
Eliminates need for backup freezer or liquid nitrogen system

AUTOMATIC DEFROST
Never worry about taking units out of service to manually defrost

EXTREMELY TIGHT TEMPERATURE UNIFORMITY AT ANY SET POINT
No matter the set point, count on better than +/- 3°C, even during a defrost cycle

ENGINEERED WITH MATERIAL HANDLING IN MIND
Optional racking, shelving, drawers and carts optimize process and workflow (available for all models)

EQUIPMENT PERFORMANCE/TEMPERATURE MONITORING (MODBUS)
Enables easy connection to nearly every building management and automation system (BAS/BMS)

REACH-IN SOLUTIONS

4000 SERIES CONTROLLED RATE CHAMBERS

Eliminate uncertainty in your freeze-thaw processes. Purpose-built for bio-processing applications, the Controlled Rate Chamber Model 4000 offers uniformity and repeatability in rapid, controlled freezing and thawing applications. Unique forced air convection cooling rapidly freezes material from ambient to -80°C. Integrated thaw capability warms material from -80°C up to +40°C. This technology reduce freeze/thaw times from up to days or weeks to hours, enabling you to increase yield.

BENEFITS INCLUDE:

RAPID PULLDOWN
Pull down an empty chamber in less than 38 minutes

EXCELLENT PRODUCT UNIFORMITY
Product temperature uniformity of +/-1°C, and air temperature uniformity of +/-2°C

UNIVERSAL CONTAINER ACCEPTANCE
Precisely freezes small or large volumes of product in nearly any container type or size

CUSTOMIZABLE FREEZING AND THAWING
Programmable freeze /thaw profiles match your process (+40°C to -80°C setpoints)

INTEGRATED PROCESS DOCUMENTATION
Optional product probe monitors freeze/thaw process for data documentation

PROVEN TRACK RECORD
Adopted by the world's leading pharmaceutical companies

MISSION-CRITICAL LOW-TEMPERATURE SOLUTIONS

FARRAR™ provides North American customers with proven, engineered, integrated, and controlled environmental chambers for ultra-low temperature suites, freezers, and cold, warm, cold clean, stability (temperature and humidity), and wide range rooms. We engineer, design, install, and maintain a diverse portfolio of controlled walk-in environmental chambers and suites for precision-temperature spaces. Our solutions are ideal for pharmaceutical manufacturing, biobanking, and clinical donation companies committed to +40°C to -80°C mission-critical refrigeration processes and storage.

Drawing on deep application expertise, we leverage a broad range of refrigerants, equipment, material handling, access and enclosures to develop the right solution for each product and process in a development facility application. Our solutions are ideal for companies committed to low-temperature storage in:

STABILITY ROOMS
+13°C to +40°C

FROZEN BLOOD/BLOOD PRODUCT STORAGE
-30°C to -40°C

FINISHED GOOD STORAGE
+1°C to +12°C, with a +5°C=set point

VACCINE AND DRUG SUBSTANCE STORAGE
-50°C to -80°C

BULK PRODUCT UNFINISHED GOODS STORAGE
-20°C

FARRAR ECOFLEX

- LOW GWP R-448
- TEMPERATURE FLEXIBILITY +4°C TO +37°C
- UP TO 50% MORE ENERGY EFFICIENT*
- EXCEPTIONALLY QUIET OPERATION <60dB
- PRECISION CONTROL +/- 0.5°C

*Up to 50 percent more energy efficient in standard use vs. traditional environmental rooms, dependent on loading.

LAB GRADE AND ULT SOLUTIONS

EVEN MORE REASONS TO CHOOSE FARRAR

A SINGLE-SOURCE PARTNER

FARRAR offers a complete line of wide-range, proven, precision cold storage refrigerator and freezer solutions in various upright and undercounter configurations for laboratory applications to meet your product and process needs.

ENGINEERED TO LAST

FARRAR's Lab Grade Solutions undergo Accelerated Life Testing (ALT) to support a 10-year service life, providing the high reliability and performance you've come to expect from our solutions.

OPTIMIZED FOR EFFICIENCY AND SUSTAINABILITY

We can help you achieve both operational and sustainability goals. To decrease carbon footprint and increase energy efficiency, FARRAR Lab Grade and ULT solutions use R290, R600a, EPA SNAP, and EU F-Gas compliant low global warming potential (GWP) natural hydrocarbon (HC) refrigerants.

REFRIGERATORS

FARRAR Lab Grade Refrigerators are the ideal upright and undercounter solutions for applications that require both consistent, powerful temperature performance and energy efficiency to meet rigorous sustainability requirements.

FLR120 FLR125 FLR245 FLR105

FREEZERS

FARRAR Lab Grade Freezers are the ideal solution when temperature excursions, reaching/maintaining set point temperature, and ice management are a challenge.

FLF120 FLF125 FLF105

ULT

The FARRAR Ultra-Low Temperature Freezer delivers superior temperature performance across three key areas – chamber uniformity, reliability, and temperature recovery – while also supporting sustainability goals.

FUF126

CAPABILITIES AND BENEFITS

SOLUTION	CAPABILITY/FEATURE	BENEFIT
LAB GRADE REFRIGERATORS (FLR105, FLR120, FLR125, FLR245)	• +2°C to +10°C with +/-1°C uniformity • Ultra-quiet operation 42dB – 52dB	• Usage flexibility • Suitable for productive office and lab environments
	• ENERGY STAR® certified and SNAP/EU F-gas-compliant	• Helps minimize environmental impact by pairing a variable capacity compressor with a low global warming potential (GWP) natural hydrocarbon refrigerant (R600a)
	• Available in multiple sizes 5.3 cu ft | (150 L), 20.2 cu ft | (572 L), 25.2 cu ft | (714 L), 44.9 cu ft | (1271 L) with premium features (single/double door configurations, glass doors, interior lights, solid buffer thermal ballast, and fast recovery from door opening)	• Purpose-built with quality components and features to help protect samples and ensure customer satisfaction
LAB GRADE FREEZERS (FLF105, FLF120, FLF125)	• -15°C to -35°C with <+/-2°C uniformity • Ultra-quiet operation 46dB - 52d	• Usage flexibility • Suitable for productive office and lab environments
	• Fast recovery to -30°C after 1 minute door opening	• Enables frequent access and helps ensure sample integrity
	• ENERGY STAR® certified and SNAP/EU F-gas-compliant	• Helps minimize environmental impact by pairing a variable capacity compressor with a low global warming potential (GWP) natural hydrocarbon refrigerant (R290)
	• Available in multiple sizes 5.3 cu ft | (150 L), 20.2 cu ft | (572 L), 25.2 cu ft | (714 L) with premium features including auto-defrost	• Purpose-built with quality components and features to help protect samples and ensure customer satisfaction
ULTRA-LOW TEMPERATURE FREEZER (FUF126)	• -50°C to -86°C with +/-5°C uniformity • Integrated Smart Access Panel and PIN controlled electronic door lock	• Usage flexibility • Intuitive interface and touchscreen enables quick user experience, prevents unauthorized access, and helps ensure sample safety
	• Integrated temperature logs	• Enables convenient temperature data download and firmware upload
	• Low energy consumption	• Helps minimize environmental impact by pairing a variable capacity compressor with a low global warming potential (GWP) natural hydrocarbon refrigerant (R290)
	• 5 layers of protection with 5 inner doors	• Restricts access to specific shelf and helps protect samples from transient temperature warming that reduces sample viability