

PURPOSE-BUILT FOR BIOPHARMA AND PHARMACEUTICAL MANUFACTURING

Commercial bulk storage with integrated redundancy and fast temperature recovery



FARRAR™ pioneered forced air convection cooling to answer the challenge of preserving and storing biological and human tissue donor samples and materials. Purpose-built for life science applications, the Ultra-Low Chamber (ULC) and 'Pallet' Ultra-Low Chamber (ULC-P) are the only -20°C to -80°C, forced-air, ultra-low-temperature freezers on the market.

Ideal for bulk commercial short and long-term needs, these innovative chambers offer rapid, efficient, and more sustainable product cool-down and accommodate universal product containers (all sizes—bags, bottles, boxes, etc. of pharmaceutical packaging).

With 190 cu.ft. / 5,380 liters of storage, these solutions help optimize footprint requiring only 47 sq. ft. / 4.36 m² of space. At +/- 3.0°C, the ISO-certified ULC and ULC-P units feature unmatched uniformity, offer fully redundant systems (control, refrigeration, airflow), and provide the fastest temperature recovery from door opening versus competitor offerings. Designed with energy balance in mind, the ULC and ULC-P are smart storage solutions for life science applications that offer dynamic refrigeration control and low energy consumption (0.33 kWh/cu.ft.).

KEY FEATURES

- Integrated full redundancy (refrigeration, controls, electrical)
- Best temperature uniformity on the market (+/- 3.0°C)
- Low temperature deviation (+/- 1°C)
- Wide-range (-20°C to -80°C) forced air convection
- Optimized footprint
- Optional racking/shelving system available
- Optional material handling carts available

BUILT FOR FREEZING

- 6x capacity of a standard ULT
- Reliable material storage enabling reduction in emergency product transfer
- Configurable for racks, carts, boxes, and pallets



CUSTOMER BENEFITS

- Fastest temperature recovery from door opening
- Low energy consumption 0.33 kWh/cu.ft.
- HMI touchscreen provides visual temperature profile progress with export capability
- Universal container acceptance (all sizes—bags or bottles)
- Adjustable shelves available for process optimization
- Accommodates any configuration including hanging systems or Metro Shelving systems
- Available Internationally
- Plug-and-play installation

APPLICATION AND ELECTRICAL REQUIREMENTS

Application	Pharmaceutical / Biorepository / Biobank
Chamber Volume	ULC=190 cu.ft. / 5,380 L ULC-P=311 cu. ft. / 8,806 L
Temperature Range	-20°C to -80°C
Electrical	North America: 208-230VAC, Single Phase, 60Hz International: 230VAC, Single Phase, 50Hz
Circuit Breaker	2 x 30 amp
Ambient Operating Temperature	+18°C to +30°C

STORAGE CAPACITY / DIMENSIONS

	ULC	—	ULC-P
Total Volume	190 cu.ft / 5,380L		311 cu. ft / 8,806L
Area Footprint	47 sq.ft./ 4,36 m2		67.5 sq. ft. / 6.28 m2
Interior Dimensions	110 x 38 x 90 in (W x D x H) 2794 x 965 x 2286 mm		116 x 54 x 87 in (W x D x H) 2946 x 1372 x 2210 mm
Exterior Dimensions	122 x 57 x 143 in (W x D x H) 3098 x 1448 x 3632 mm		128 x 76 x 147 in (W x D x H) 3251 x 1930.4 X 3734 mm
Unit Weight	3,150 lbs. / 1,429 Kg		3900 lbs. / 1769 Kg
Shipping Weight	3,900 lbs. / 1,769 Kg		4,500 lbs. / 2132 Kg

REFRIGERATION SYSTEM

Evaporator/QTY	Forced - Air / (2)
Condenser/QTY	Forced – Air-Cooled / (2) or Water-Cooled
Metering Device	Electronic
High Stage/ Low Stage	R-449A / R-508B
Air Cooled Condenser	+18°C to +30°C
Water Cooled Condenser	Tower Water 85°F (29.5°C), Max. flow rate 7gpm (26.5 l/min)
Requirements	Chilled Water 45°F (7.2°C), Max. flow rate 3.5 gpm (13.25 l/min)



PERFORMANCE DATA

Uniformity Air Temperature	+/- 3.0°C (empty chamber)
Temperature Control	+/- 1.0°C
Warranty	2 Years parts

CONTROLLER

Temperature Controller/QTY	Microprocessor (2)
IDEA PLC/5.7" (145mm) Displays	LCD (2)
Sensor/QTY	RTD PT100 Din A (2)
Alarms	High/Low temperature, door ajar, power failure, remote alarm contacts
Dry Contacts	Standard (C, NO, NC)

ORDERING INFORMATION

Model Numbers		Description	Voltage (Hz)	Amps (FLA) / Breaker
ULC	ULC-P			
ULC_AC	ULC-P_AC	Air-Cooled	208-230VAC - 1 Phase - 60 Hz	2 x 24 FLA / 30A
ULC_WC	ULC-P_WC	Water- Cooled	208-230VAC - 1 Phase - 60 Hz	2 x 24 FLA / 30A
ULCi_AC	ULCi-P_AC	Air-Cooled	230VAC - 1 Phase - 50 Hz	2 x 24 FLA / 32A
ULCi_WC	ULCi-P_WC	Water-Cooled	230VAC - 1 Phase - 50 Hz	2 x 24 FLA / 32A

ULC SERIES MATERIAL HANDLING SOLUTIONS

Product	Options	Deminsions
ULC	Shelves	54" x 36" (1372 x 914 mm) Adustable @ 1" Increments
	Product Card	36 3/4" (934 mm) D x 33" (838 mm) W x 61 1/2" (1562 mm) H, (4) Shelves 18" (457 mm)
	Transfer Cart	27" (686 mm) W x 56" (1423 mm) D x 45 1/8" (1146 mm) H
ULC-P	Palette Capacity	4 - 40" (1016 mm) W x 48" (1219 mm) D x 36" (914 mm) H
	Product Card	51 1/2" (1308 mm) D x 21" (534 mm) W x 61 1/2" (1562 mm) H, (4) Shelves 18" (457 mm)
	Transfer Cart	41 1/16" (1043 mm) D x 39" (991 mm) W 45 1/8" (1146 mm) H

ADDITIONAL SERVICES & OPTIONS

- Warranty Options
- Validation IQ/OQ
- Temperature Mapping Studies
- Shelving System and Portable Material Handling
- Custom Programming and Testing

