



# **FARRAR** **Innovative Ultra-Low** **Temperature Solutions**

# FARRAR™

## By Trane Technologies

Withnell Sensors are thrilled to introduce FARRAR™! Within life science applications, FARRAR™ specialized in precision-engineered ultra-low temperature solutions including bulk reach-in storage and production freezers for drug product/drug substance and process development facilities.

Their best-in-class operating systems are completely redefining ultra-cold storage for pharmaceutical, biotech, and biorepository applications. FARRAR™ offers a complete end-to-end offering of products, material handling solutions, and services to best serve the operational and performance needs of temperature-critical bioprocessing companies.

## FARRAR™ Ultra Low Chamber (ULC)

Withnell Sensors partners with FARRAR™ to offer the ULC ultra-low chamber to the UK market. FARRAR™ has pioneered forced-air convection cooling as an answer to the challenges faced when storing biological and human tissue samples and materials. Engineered specifically for pharmaceutical and life science applications, the Ultra-Low Chamber (ULC) and 'Pallet' Ultra Low Chamber (ULC-P) are the sole -20°C to -80°C, forced air convection, ultra-low temperature freezers on the market today. The ULC line is perfect for bulk storage for both short-term and long-term demands.



**Validation IQ/OQ/PQ available**



**2 Year Warranty**



**6x Capacity of a standard ULT**



**Best uniformity on the market +/- 3.0°C**

### Technical Specifications:

	ULC	ULC-P
Temperature Range	-20 °C to -80 °C	-20 °C to -80 °C
Temperature Control	+/- 1.0 °C	+/- 1.0 °C
Uniformity Air Temperature	+/- 3.0 °C (empty chamber)	+/- 3.0 °C (empty chamber)
Evaporator/QTY	Forced - Air / (2)	Forced - Air / (2)
Condensator/QTY	Forced - Air-Cooled / (2) or Water-Cooled	Forced - Air-Cooled / (2) or Water-Cooled
Air Cooled Condenser	+18 °C to +30 °C	+18 °C to +30 °C
Water Cooled Condenser	Tower Water 85 °F (29.5 °C), Max. flow rate 7gpm (26.5 l/min)	Tower Water 85 °F (29.5 °C), Max. flow rate 7gpm (26.5 l/min)
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 (W x D x H)	110 x 38 x 90 in (2794 x 965 x 2286 mm)	116 x 54 x 87 in (2946 x 1372 x 2210 mm)
Exterior Dimension (W x D x H)	122 x 57 x 143 in (3098 x 1448 x 3632 mm)	128 x 76 x 147 in (3251 x 1930.4 X 3734 mm)
Unit Weight	3,150 lbs. / 1,429 Kg	3900 lbs. / 1769 Kg

# FARRAR™ 4000 Series

## Freeze/Thaw Controlled Rate Chamber

Withnell Sensors and FARRAR™ offer the Model 4000 Freeze/Thaw Controlled Rate Chamber to the UK market. FARRAR™ pioneered forced air convection cooling to meet the challenge of preserving biologic samples and materials.

The Controlled Rate Freezer provides consistent, accurate, and brisk freezing and thawing of bulk materials and samples before cold storage. Intended for bioprocessing applications, the Model 4000 freeze thaw chamber drastically reduces freezing and thawing conditioning times, determined in hours, not days or weeks. The precise and rapid freeze thaw chamber safeguards product quality by facilitating timely, uniform bulk freezing and thawing of protein or products stored in a gamut of containers, varying in sizes and shapes (bags, bottles, etc.) including single use system (SUS), polycarbonate vessels or polypropylene vessels.

Our cutting-edge Controlled Rate Freezer model 4002/05 (air-cooled) or 4102/05 (water-cooled) executes rapid freezing and thawing for +40° C to -80° C temperature needs. Also featuring the controlled rate freezer model 4000LC. This model has all the technical specifications of the model 4000, with an additional feature in the 12-inch HMI screen with graphical display of chamber and product temperature with export capabilities.



**Validation IQ/OQ/PQ available**



**Rapid freeze/thaw +40°C to -80°C**



**60 Air exchanges/min (1000 CFM)**



**suitable for various sample container types**

### Technical Specifications:

Chamber Volume	23.3 Cu. Ft. (659.8 L)
Temperature Range	+40° C to -80° C
Interior Dimensions (W x D x H)	34" x 27.5" x 43" (863.6 x 698.5 x 1092.2 mm)
Exterior Dimension (W x D x H)	75" x 38" x 80" (1901.5 x 960.4 x 2028.8 mm)
Pull Down Empty Chamber	Under 38 minutes from +25° C to -80° C
100L Load +25° C to -80° C	Under 12 Hours
Uniformity Air Temperature	+/- 2.0° C
Heat Transfer	Convection, Air Flow Evaporator
Certification	CE International Models, UL Field Listing Available
Ambient Operating Temperature	+18° C to +30° C<
Air-cooled Condenser Requirements	+18° C to +30° C
Water-cooled Condenser Requirements	Tower Water 85° F (29.5° C), Max. Flow Rate 7gpm (26.5 l/min) Chilled Water 45° F (7.2° C), Max. Flow Rate 3.5 gpm (13.25 l/min)



Customers we are proud to have worked with:



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**W**ithnell Sensors  
Temperature & Humidity Specialists