

## Farrar ULC wide temperature range -40°C to -80°C



- ✓ **The only** wide range forced air circulation low temperature freezer available
- ✓ 190 Cu.ft./ 5,380 Liters of storage space
- ✓ ULC only requires 47 sq.ft. / 4.36 m2 of floor space
- ✓ Best uniformity on the market +/- 3.0°C
- ✓ Fully redundant system (*control, refrigeration, air flow*)
- ✓ Fastest temperature recovery from door opening
- ✓ Exceptional performance
- ✓ Energy balance design
- ✓ Dynamic refrigeration control
- ✓ Smarter storage solution
- ✓ Low energy consumption 0.33 kWh/cu.ft.

*“Farrar’s ULC will revolutionize long term sample storage”*

### Overview

- ◆ Specifically designed for Pharmaceutical, Biorepository / Biobank
- ◆ Largest volume space available for a -40C to -80C reach-in freezer
- ◆ Smallest foot print with largest storage volume
- ◆ Forced-air circulation provides fastest temperature recovery from door opening
- ◆ Fully redundant systems offer peace of mind (display, electrical, refrigeration and controls)
- ◆ We designed the interior to be fully customizable ; from vials to bulk containers, cassettes and bioshells.
- ◆ Optional shelving system is available

## Application and Electrical Requirements

<b>Application</b>	Pharmaceutical / Biorepository / Biobank
<b>Chamber Volume</b>	190 cu.ft. / 5,380 l
<b>Temperature Range</b>	-40°C to -80°C
<b>Electrical</b>	208-230 VAC, 1 Ø, 60Hz
<b>Circuit Breaker</b>	2 x 30 amp
<b>Ambient Operating Temperature</b>	+18°C to +30°C

## Storage Capacity / Dimensions

<b>Total Volume</b>	190 cu.ft / 5,380 l
<b>Optional Shelves</b>	54 x 36 in / 1372 x 914 mm (W x D)
<b>Area Footprint</b>	47 sq.ft./ 4,36 m <sup>2</sup>
<b>Interior Dimensions</b>	110 x 38 x 90 in (W x D x H) 2794 x 965 x 2286 mm
<b>Exterior Dimensions</b>	122 x 57 x 143 in (W x D x H) 3098 x 1448 x 3632 mm
<b>Unit Weight</b>	3,150 lbs. / 1,429 Kg
<b>Shipping Weight</b>	3,900 lbs. / 1,769 Kg

## Performance Data

<b>Uniformity Air Temperature</b>	+/- 3.0°C (empty chamber)
<b>Temperature Control</b>	+/- 1.0°C
<b>Warranty</b>	1 Years parts & labor

## Refrigeration System

<b>Evaporator/QTY</b>	Forced - Air / 2
<b>Condenser/QTY</b>	Forced - Air Cooled / 2
<b>Metering Device</b>	Electronic
<b>High Stage/ Low Stage</b>	R-449A / R-508B
<b>Air Cooled Condenser Requirements</b>	+18°C to +30°C
<b>Water Cooled Condenser Requirements</b>	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).

## Controller

<b>Temperature Controller/QTY</b>	Microprocessor/ 2
<b>Display/QTY</b>	LCD/ 2
<b>Sensor/QTY</b>	RTD PT100 Din A/ 2
<b>Alarms</b>	High/Low temperature, door ajar, power failure, remote alarm contacts
<b>Dry Contacts</b>	Standard (C, NO, NC)

## Key Features

- Wide range forced air evaporator
- Best temperature uniformity on the market (+/- 3.0°C)
- Fully redundant systems
- Small foot print
- Low temperature deviation (+/- 1°C)