

HIGH PERFORMANCE CONTROLLED RATE FREEZE/THAW CHAMBER

Designed for high volume, accelerated bulk freezing and/or thawing of product under controlled conditions.



Model 4005, shown, with a 20.4 cu.ft. interior chamber designed for bulk freezing and thawing with customer specified profile.

The Farrar Scientific Controlled Rate Chamber permits fast, uniform bulk freezing and/or thawing of temperature sensitive products contained in a variety of containers such as polycarbonate/polypropylene vessels, single use system (SUS), and PCMs.

Model 4005

Temperature Range: -80°C to +40°C

Validatable.

Reduces product freezing and/or thaw time from days or weeks to hours.

Applications:

- High Throughput Freezing for Storage
- Control Rate Freeze/Thaw Capability for Single Use Systems
- Blast Freezing (Rapid Freeze)
- PCM Conditioning
- Thermal Shock Testing

CE Marked Model.

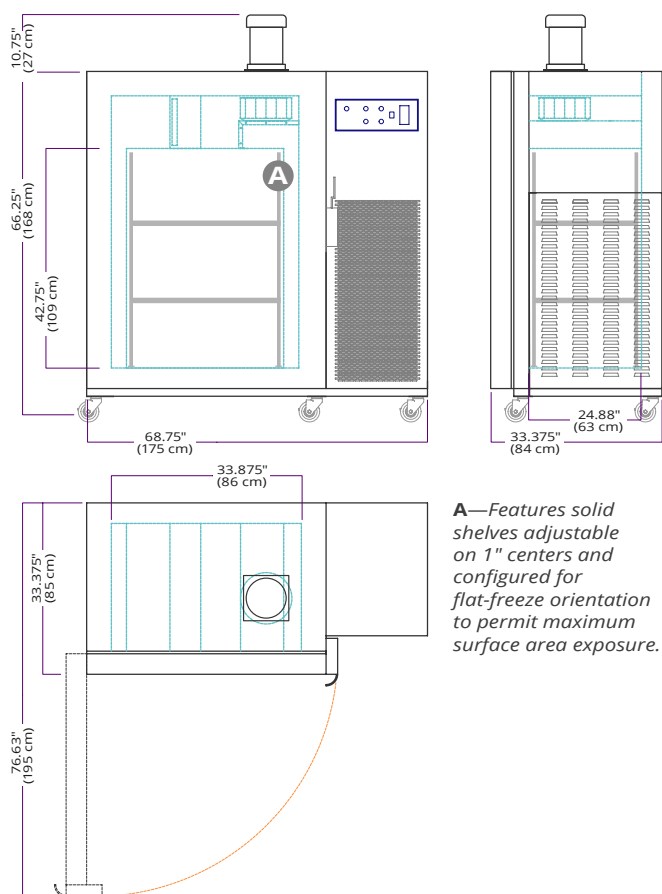
General Performance

- Rapid bulk freezing and/or thawing in hours instead of days or weeks.
- Uniform, repeatable results improve quality control processes.
- Forced-air circulation provides quick pulldown from ambient to desired temperature throughout the fluid core.
- Eliminates uncertainty, provides temperature specific conditioning to satisfy thermal processing protocols.
- Deep temperature pulldown surpasses super cooling point of mixed solution fractions.
- User programmable profiles allow flexibility to meet unique product conditioning requirements.

Farrar Scientific

Ultra-Low Refrigeration Engineering

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A—Features solid shelves adjustable on 1" centers and configured for flat-freeze orientation to permit maximum surface area exposure.

Control System — Freeze/Thaw

- A programmable controller allows user defined temperature setpoint, pulldown, dwell, ramp and hold temperatures.
- The controller allows for the storage of three programmable profiles through the programming port.
- Probe port allows for external monitoring.
- Control panel lights indicate system status.

Refrigeration and Airflow System

Designed using the Farrar Scientific Energy Balance™ modeling protocol ensures:

- High performance refrigeration system provides high BTU removal for rapid throughput with minimum power consumption.
- High differential pressure blower system provides one cabinet air exchange per second over the product load to maximize the rate of energy removal.

Cabinet Design

- Powder-coated, heavy-gauge steel cabinet with foamed-in-place insulation.
- Outer door with positive door latch closes against multipoint gasket with door locking capability.
- Integrated evaporative condensate removal system, no facility drain required.

MODEL 4005 SPECIFICATIONS

Temperature Range:	Programmable, +40°C to -80°C
Electrical:	400VAC, 3Ø, 50Hz, 24FLA, 4 wire + Ground, 40Amp breaker
Chamber Volume:	20.4 cu.ft. (578 liters)
Shelves:	2 shelves, standard, adjustable on 1" centers; Additional shelving available
Cabinet Exterior:	68.75"W x 33.375"F-B x 77"H, including casters and motor (175 x 84 x 196 cm)
Casters and Leveling Feet:	4"Dia. casters; 4 swivel, 2 swivel/lock. 3 leveling feet
Door Swing Allowance:	48" (122 cm) arc
Cabinet Interior:	33.875"W x 24.88"F-B x 42.75"H (86 x 63 x 109 cm)
Net Weight (Empty):	995 lbs (451 kg)
Shipping Weight:	1454 lbs (660 kg)

ADDITIONAL SERVICES

Validation
Temperature Mapping
Customer Specified Pre-Programming and Process Validation
Custom Material Handling Systems Available



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