



# GENEVA SCIENTIFIC

LAB EQUIPMENT SOLUTIONS

## LOW TEMPERATURE CHAMBER - LT-105



Model	LT-105
Exterior Dimensions (WxDxH)	117" x 38.5" x 77.6"
Temp. Range (w/ lights on)	0-44C +/- 0.5C
Interior Space	121.2 cu.ft.
Total Shelving Floor Area	15.9 sq.ft.
Maximum Growing Height	54"
Light Intensity (6" from lamps)	1100 micromoles/m <sup>2</sup> /sec @ 25C
Number of Tiers	1

### Applications

\*Offers ability to measure cold hardiness, freeze tolerance, heat stress and exposure to a series of temperatures (spring, summer, fall and winter-like conditions)  
\*“Constant temperature defrost” allows chamber to operate at low temperature under full lighting without temperature defrost spikes

### Percival's IntellusUltra Controller

\*Percival Scientific has built a reputation of providing flexible, customized options for research scientists around the world. We have taken the philosophy to the next level with our improved IntellusUltra Controller. Now choose from the levels of functionality that meet your needs.

### Lighting System

\*Counter-balanced lamp bank is height adjustable for optimizing light intensities  
\*Light fixtures yield up to 1100 micromoles/m<sup>2</sup>/sec of light @ 6" from lamps

### Lighting System cont.

\*Lamp provides balanced spectrum for plant growth using twin T-5 fluorescent lamps and extended life tungsten incandescent lamps on 3 on/off light events  
\*Two levels of programming of fluorescent lighting and one level of programming of incandescent lighting done via IntellusUltra real time controller

### Airflow/Circulation

\*Conditioned air moves in uniform upward direction through entire work bench through perforations in aluminum channels  
\*Fresh air inlet and outlet are adjustable

### Insulation

\*Woodless construction using foamed-in-place 2" thick CFC free urethane insulation foam  
\*This is an environmentally friendly foam with global warming potential [GWP] of 0.0 and ozone depletion potential [ODP] of 0.0

### Doors

\*Two door openings each 26" x 48.5"(magnetic gasket provides a tight seal to door frame)

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### Interior Space

\*121.2 cu.ft. with work area 15.9 sq.ft. provided on one tier

### Cabinet Construction

- \*Interior and exterior constructed of 22-gauge electro-zinc plated steel
- \*Stainless steel floor
- \*Perforated aluminum channel work bench
- \*Inner shell supported by thermal conducting insulator locking inner liner in place without a metal-to-metal bond to outer case
- \*Chamber floor equipped with floor drain with attached 3/4" plastic tubing
- \*Chamber cabinet is attached to angle frame base containing heavy duty swivel casters

### Finish

\*Interior and exterior painted with high reflective, environmentally friendly, high temperature baked white powder coating

### Refrigeration

- \*Refrigerant: R-407c
- \*Constant temperature defrost allows chamber to operate at low temperature under full lighting without temperature defrost spikes (typically, low temperature systems are defrosted by the diversion of hot gas through the coil or via electric heaters, causing a significant temperature spike during the defrost period)
- \*Dual coil system has been utilized in order to maintain a constant low temperature within chamber
- \*Coils work in tandem (as one coil is cooling, the other coil is defrosted via hot gas)
- \*An air flow damper switches with coils preventing the coil being defrosted from putting its heat into system (coil being defrosted is essentially closed off from the rest of the system)
- \*Self-contained water-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and close temperature control (this continuous running condensing unit ensures precise temperature control and provides defrost of cooling coils via hot gas without the need of electric heaters)

### Refrigeration cont.

\*Optional outdoor all weather air-cooled condensing unit or self-contained air-cooled condensing unit available upon request

### Temperature Range

\*-12-44C (+/- 0.5C) lights off and 0-44C (+/- 0.5C) lights on (full fresh air) within work area on horizontal plane

### Temperature Safety Limit Controls

- \*Experiment Protection: Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- \*Controls shut down all power to chamber, activating alarms (when the temperature returns to the normal range the system will automatically reset)

### Convenience Receptacles

\*Two 115/1/60 convenience receptacles provided inside chamber

### Electrical Requirements

\*Consult Geneva Scientific for electrical requirements and amperage draw.

### Options

- \*Additive Humidity Control with Sensor
- \*Dehumidifier with Sensor
- \*IntellusUltra Connect
- \*Android-Based Touch Screen
- \*CO2 Enrichment Package
- \*Self-Contained Water-Cooled Condensing Unit
- \*Dry Alarm Contacts
- \*Dimmable Lighting
- \*LED Lighting in Lieu of Fluorescent Lamps



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