

Plant Growth

Percival® model E-22L1

Standard SciWhite® lighting

Specifications, excluding exterior dimensions, are per compartment only.



Applications

- This chamber is frequently used for Alfalfa/forages, peanut, potato, bluegrass, short term plant growth and/or short plants
- Please compare your own requirements to the specifications listed below.*

Percival's IntellusUltra Controller

The IntellusUltra control system (C8) was purpose-built for controlled environments and is standard on all Percival chambers.

- Robust and reliable, industrial-grade integrated hardware design
- Highly flexible architecture facilitates configuration, expansion and customization
- Precise, simultaneous control of up to 7 environmental parameters
- Industry-leading experiment protection and system diagnostics

IntellusUltra Control Graphical User Interface

A touchscreen user interface is provided as standard on all Percival Scientific plant growth chambers and allows users to interact with their controlled environment in new and intuitive ways.

- 10.1" IPS, high resolution display with 10-point multi-touch sensitivity
- Tabular and graphical presentation of chamber programs and parameters
- Highly visible process values and alarm notifications
- Enhanced user feedback menus

Please refer to www.percival-scientific.com for additional information regarding the control systems.

SciWhite LED Lighting System

- One tier of lighted shelving, lit by SciWhite LEDs with enhanced red
- Intensity programmable up to 680 $\mu\text{moles}/\text{m}^2/\text{s}$ of light irradiance measured @ 6" from LEDs on 3 on/off light events
- Programming and control of the lighting is done via IntellusUltra real time controller
- Dimmable between 10-100% output

Airflow/Circulation

- Conditioned air circulates through a rear wall plenum and travels horizontally across each shelf (air then flows vertically upward through the space between the door and shelves back to the unit cooler)

Insulation

- Woodless construction using 2" thick foamed-in-place non-CFC Urethane insulation with 97% closed cell-structure density of 2.2 lbs/ ft^3

E-22L1 specifications

Specifications, excluding exterior dimensions, are per compartment only. (subject to change without notice)

Temp Range with all lights on	Interior Space volume	Total Shelving Floor Area	Maximum Growing Height	Exterior Dimensions						Light Intensity 6" from lamps unless otherwise noted	Tiers			
				width		depth		height						
°C	ft ³	m ³	ft ²	m ²	in	cm	in	cm	in	cm	μmoles/m ² /s			
7-44±0.5	14.6	0.4	5.4	0.5	20.2	51.3	33.5	85.1	36.6	93	77.9	197.8	680	1

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Cabinet Construction

- Interior constructed of 22-gauge galvanized steel
- Interior floor constructed of 22-gauge polished stainless steel
- Exterior constructed of 18-gauge Galvannealed extra-smooth steel
- NSF-compliant seam design
- Overall wall thickness is 2" (5.1 cm)
- Integrated floor drain in each compartment
- Contains casters assembly and adjustable leveling legs
- One 1.25" access port with air-tight plug per compartment
- Highly durable and reflective coating

Door

- Two doors each with an opening of 29.3" x 27.8" (74.3 cm x 70.5 cm) providing full access to chamber interior (magnetic gasket provides a tight seal to door frame)

Interior Space

- 14.6 ft³ (0.4 m³) with work area of 5.4 ft² (0.5 m²) provided on one shelf per compartment

Shelving

- One tier per compartment of white epoxy coated steel wire shelving (each shelf is 28.8"W x 27"D [73 cm x 68.6 cm])
- Shelves are supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 20.2" (51.3 cm)

Finish

- Interior and exterior painted with highly reflective, environmentally friendly, high temperature baked white powder coating

Refrigeration

- Twin condensing unit (this continuous running condensing unit ensures precise temperature control by alternately cycling refrigerant and hot gas to coil; this also prolongs life of compressor, and eliminates risk of ice build up in coil)
- Extended stem solenoid valves for quiet and long life operation
- Heat rejection to the ambient (standard refrigeration system) = 2,460 BTU/hr.

Temperature Range

- 7°-44°C (±0.5°C) lights on and 2°-44°C (±0.5°C) lights off

Temperature Safety Limit Controls

- (Experiment Protection) Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- Controls shut down all power to the chamber, activating alarms
- System automatically resets when temperature returns to normal range

Humidity Control (optional)

- Ultrasonic Humidifier with Advanced RH Sensor (H11)
- Ultrasonic Humidifier and Dehumidifier with Advanced RH Sensor (H12)
- Ultrasonic Humidifier with Electronic RH sensor (H14)
- Ultrasonic Humidifier and Dehumidifier with Electronic RH sensor (H15)

See other specification sheets or consult factory for additional information.

Options (most popular) per compartment

- IntellusUltra Connect (C9)
- Additive CO₂ control
- CO₂ removal system
- Self-contained water-cooled condensing unit
- Dry alarm contacts
- Closed loop dimmable lighting with PAR light sensor (Q22)
- Extended temperature ranges available
- Convenience receptacles

Contact info@percival-scientific.com with questions or for additional information.

Electrical Service Requirements

- 120/1/60 with NEMA 5-15P plug provided (with standard chamber)
- RLA=10.6, MCA=13.3 (per compartment)

Regulatory Standards

- Electrical Safety: UL-508A, certified and labelled by Percival Scientific under UL file number E340161
- Quality System: ISO 9001:2015, certified under DQS, Inc. under certification number 10017261

Helping You Create Better Science

Percival Scientific controlled environment systems are the culmination of over 60 years of design and manufacturing experience. Our high quality products have been developed through direct partnerships with the scientific community and offer platforms that are highly customizable and provide superior performance. We understand that scientific innovation is bred through creativity, passion, technical expertise and attention to detail, and we are proud to help you create better science.



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