LED series

Percival® model LED-41HVL LT

applications

- This chamber is specifically designed for plant growth light quality studies and other experiments requiring specific wavelengths of light
- 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
- Glass side walls give full view of each shelf without disturbing experiment, and glass is evenly heated over its entire surface eliminating condensation

Please compare your own requirements to the specifications listed below.

percival's IntellusUltra controller

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

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

lighting system

- Standard color choices include cool white, red, far red, and blue LEDs
- Non-standard color choices include UV, warm white, full spectrum white, and green
- Each color is independently dimmable between 10-100%
- Two externally mounted LED lamp banks which reduce interior heat load
- Externally mounted lamp banks separated from chamber growth space by glass side walls
- Programming and control of the lighting is done via IntellusUltra real time controller

cabinet construction

- Interior constructed of 22-gauge electro-zinc plated steel
- Exterior constructed of 18-gauge exterior electro-zinc plated steel
- Welded seams and joints on outer and inner shells
- Inner shell supported by non-compressing/non-thermal conducting material locking inner liner in place without a metal-to-metal bond to outer case
- Chamber is completely self-contained
- Overall wall thickness is 2" (5.1 cm)
- Two 1¼" diameter access ports on R.H. wall
- Chamber floor equipped with floor drain and hose assembly
- Contains caster assembly and adjustable leveling legs to compensate for floor uneveness in the lab

insulation

- Woodless construction using CFC free insulation (overall wall thickness is 2" [5.1 cm], ample insulation for maintenance of stated temperature range)

door

- One door opening 36.75" x 57.5" (93 cm x 146 cm) provides full access to the chamber interior (magnetic gasket provides a tight seal to door frame)

LED-41HVL LT specifications (subject to change without notice)

Temp Range with all lights on	Interior Space volume		Total Shelving Floor Area		Maximum Growing Height		Exterior Dimensions width		depth		height		Light Intensity 6" from lamps unless otherwise noted	Tiers	LED Colors
°C	ft^3	m^3	ft^2	m^2	in	cm	in	cm	in	cm	in	cm	µmoles/m^2/s		
(-)5-44±0.5	37.2	1.1	13.6	1.3	21.5	54.6	49.8	126.5	33.6	85.3	79.25	201.3	950	2	4*

Each color is independently dimmable. *Cool White + Red + Far Red + Blue combination.

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interior space

- 37.2 ft^3 (1.1 m^3) with work area of 13.6 ft^2 (1.3 m^2) provided on two tiers

shelving

- Two tiers of white epoxy coated steel wire shelving (shelf is 27"D x 36.3"W [68.6 cm x 92.1 cm])
- Shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 21.5" (54.6 cm)

finish

- Interior and exterior painted with highly 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)
- Self-contained air-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and close temperature control (this continous running condensing unit ensures precise temperature control and provides defrost of cooling coils via hot gas with out the need of electric heaters)
- Optional outdoor all weather air-cooled condensing unit or self contained water-cooled condensing unit available upon request
- Chamber heat rejection to ambient 7200 BTU/hr.

temperature range

- -5°-44°C (±0.5°C) lights on and -10°-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 (when the temperature returns to the normal range the system will automatically reset)

humidity control (with optional H15)

- Humidity control of 40% to 85% (±10%) lights on for set temperatures between 15° to 30°C
- Humidity control of 40% to 90% (±10%) lights off for set temperatures between 15° to 30°C
- Extended humidity ranges available

See other specification sheets or consult factory for additional information.

options (most popular)

- IntellusUltra Connect (C9)
- IntellusUltra Connect and Android-based Touchscreen (C9T)
- IntellusUltra (standard) and Android-based Touchscreen (C8T)
- Ultrasonic Humidifier with advanced RH Sensor (H11)
- Dehumidification via independent dehumidifying coil with reheat heaters and Ultrasonic Humidifier (H12)
- Ultrasonic Humidifier with Electronic RH sensor (H14)
- CO_2 enrichment package
- Self-contained water-cooled condensing unit
- Dry alarm contacts
- Extended temperature ranges available

See other catalog sheets or consult factory for additional accessories.

convenience receptacles

- Two 120/1/60 convenience receptacles provided inside chamber

electrical service requirements

- 120-208/1/60, RLA=18.4, MCA=23
- Power cord and NEMA L14-30 plug provided

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