

reach in plant growth

Percival model E-30LED

applications

- Frequently used for research applications such as lighting for vascular plants to facilitate standard plant production, gene expression, morphology, photosynthetic responses to light quality
- Many other applications exist for this product
Please compare your own requirements to the specifications listed below.

percival's intellus ultra controller

- Controls temperature, lighting, humidity (optional) and CO₂ (optional)
- Single-board electronic solid-state design includes 10 key membrane keypad with LED indicators and vacuum fluorescent display
- Programs can be configured to run in real time or elapsed time
- Ramping and non-ramping program methods available for each programming mode
- Multiple programs can be linked creating complex environmental profiles
- Optional Intellus Web Server allows monitoring and controlling of chamber via web browser (requires Internet Explorer 6.0+) (this option allows for remote monitoring and programming of chamber including alerts and current condition updates for up to five e-mail addresses)

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

lighting system

- Single lamp bank consists of six SNAP-LITTM LED lighting modules
- Modules may consist of 470, 670, and/or 735 nm wavelength LEDs which must be selected upon ordering
- Modules are mounted in a specially designed lamp bank which easily slides in and out of chamber



lighting system (continued)

- Interchangeable lamp banks allow the researcher maximum flexibility in interchanging LED modules, and easy replacement of LED lamp bank with an optional fluorescent/incandescent lamp bank
- Light intensity for tri-chromatic lamp bank is 450 $\mu\text{moles}/\text{m}^2/\text{s}$ total
- The lights are cooled by circulating ambient air and are completely isolated from the growth environment
- Programming and control of the lighting is done via Intellus real time controller

cabinet construction

- Interior constructed of 22-gauge electro-zinc plated steel
- Exterior constructed of 18-gauge exterior electro-zinc plated steel
- Stainless steel floor
- 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, suitable for stacking one above the other

E-30LED specifications (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
	°C	ft ³	m ³	ft ²	m ²	in	cm	width		depth		height		
10-44±0.5	9.7	0.3	3	0.3	21	53.3	31	78.7	25.8	65.4	46.1	117.2	450	1

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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 26.8" x 29.6" (67.9 cm x 75.2 cm) provides full access to the chamber interior (magnetic gasket provides a tight seal to door frame)

interior space

- 9.7 ft³ (0.3 m³) with work area of 3 ft² (0.3 m²) provided on one tier

shelving

- One tier of white epoxy coated steel wire shelving (shelf is 16.5"D x 26.5"W [41.9 cm x 67.3 cm])
- Shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 21" (53.3 cm)

finish

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

refrigeration

- ¼ h.p. self-contained air-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 by alternately cycling refrigerant and hot gas to coil; this also prolongs life of compressor, and eliminates risk of ice build up in coil)
- Solenoid valves have extended stem for quiet and long life operation
- Rear chamber wall mounted evaporator coil incorporates an air circulation fan (heat rejection to ambient [standard chamber] = 4300 BTU/hr.)

temperature range

- 10°-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 (when the temperature returns to the normal range the system will automatically reset)

humidity control (optional)

- Additive control of humidity in %RH through use of ultrasonic humidifiers or spray nozzles will maintain humidity levels of up to 90% RH lights off and 75% lights on, between 15° and 30°C
- Humidifier requires distilled or de-mineralized water
- Optional dehumidification via independent cooling coil and reheat heaters will maintain humidity levels down to 40% RH between 15°C and 30°C

options (most popular)

- Intellus Ultra Web Server (C9)
- Communications Software (C9+)
- Intellus Ultra with Touchscreen and Internet capabilities (C10)
- Spray nozzle humidifier with advanced RH sensor and some dehumidification via reheat heaters (H9)
- Dehumidification via independent cooling coil with reheat heaters and spray nozzle humidifier (H8)
- 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)
- CO₂ enrichment package
- Self-contained water-cooled condensing unit
- Dry alarm contacts
- Dimmable lighting (closed loop with PAR light sensor) (Q22)
- Dimmable lighting (open loop control) (Q23)
- Extended temperature ranges available
See other catalog sheets or consult factory for additional accessories.

convenience receptacles

- One 115/1/60 convenience receptacle provided inside chamber

electrical service requirements

- 115/1/60 - 11 amps (total) for standard chamber (power cord and grounded plug provided)



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