

# REACH IN PLANT GROWTH

## E-30LED Reach in Plant Growth



**Applications** These chamber products are 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.

**Controller** Percival's Intellus Ultra controller is capable of controlling temperature, humidity, CO<sub>2</sub> and lighting. The Intellus Ultra Control System is a single-board electronic solid-state design which includes a 10 key membrane keypad with LED indicators and a vacuum fluorescent display. Programs may be configured to run in real time or countdown (circadian) mode. Ramping and non-ramping program methods are available for each programming mode. Multiple programs can be linked to create complex environmental profiles. The Intellus Web Server (optional) allows for monitoring and controlling of the chamber via a web browser (requires Internet Explorer 6.0 +). This option allows for remote monitoring and programming of your chamber including alerts and current condition updates for up to five e-mail addresses. Please refer to [www.percival-scientific.com](http://www.percival-scientific.com) for additional information regarding the control system.

**Lighting System** Single lamp bank consists of six SNAP-LITE™ 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. 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. The light intensity for the tri-chromatic lamp bank is 466  $\mu\text{moles}/\text{m}^2/\text{s}$  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.

Temp Range (with all lights on)	Interior Space (volume)		Work Area		Maximum Growing Height		Exterior Dimensions in. (cm)			Light Intensity (6" from lamps unless otherwise noted) $\mu\text{moles}/\text{m}^2/\text{s}$	# of Tiers
	° C	ft <sup>3</sup>	m <sup>3</sup>	ft <sup>2</sup>	m <sup>2</sup>	in.	cm	(W)	(D)		
10-44±0.5	6.5	.18	3	.28	24 1/2	62.2	31(78.7)	26(66)	46(116.8)	450	1

# REACH IN PLANT GROWTH

## E-30LED Reach In Plant Growth Chamber

**Cabinet Construction** 22-gauge interior and 18-gauge exterior electro-zinc plated steel construction with stainless steel floor. All seams and joints on the outer and inner shells are welded. Inner shell is supported by a non-compressing and non-thermal conducting material to lock the inner liner in place without a metal-to-metal bond to the outer case. The chamber is completely self-contained, suitable for stacking one above the other.

**Insulation** Woodless construction using CFC free insulation. Overall wall thickness is 2" (5.1cm), ample insulation for maintenance of stated temperature range.

**Doors** One door opening each 26 3/4" x 29 5/8" (67.9 cm x 75.2 cm) provides full access to the chamber interior. A magnetic gasket provides tight seal to door frame.

**Interior Space** 6.5 ft<sup>3</sup> (0.18 m<sup>3</sup>) with a work area 3 ft<sup>2</sup> (0.23 m<sup>2</sup>) provided on one tier.

**Shelving** One tier of white epoxy coated steel wire shelving. Shelf is 16 1/2" D x 26 1/2" W (41.9 cm x 67.3 cm). Shelf is supported by shelf clips which allow 1/2" vertical adjustments. The maximum growing height is 24.5" (62.2 cm).

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

**Refrigeration** 1/4 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 the coil; this also prolongs the life of the compressor, and eliminates the risk of ice build up in the coil. Solenoid valves have an extended stem for quiet and long life operation. Evaporator coil is mounted on the rear chamber wall, and incorporates air circulation fans. Heat rejection to the ambient (standard chamber) = 4300 BTU/hr.

**Temperature Range** 7° - 44° C with all lights on ( $\pm 0.5^\circ$  C) and 2° - 44° C with all lights off ( $\pm 0.5^\circ$  C).

**Temperature Safety Limit Controls** (Experiment Protection) Adjustable high and low temperature controls, audible alarms, and visual indicators are provided. The controls shut down all the power to the chamber, and activates 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 coiling coil and reheat heaters will maintain humidity levels down to 40% RH between 15°C and 30° C.

**Options (most popular)** Advanced Intellus Control System (C9), Communications Software (C9+), Advanced Intellus 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 dehumidifying coil with reheat heaters and Ultrasonic Humidifier (H12), Ultrasonic Humidifier with Electronic RH sensor (H14), CO<sub>2</sub> enrichment package, Self-contained water-cooled condensing unit, Dry alarm contacts (S2), Closed loop dimmable lighting (Q22), Open loop dimmable lighting (Q23). Extended temperature ranges available. See other catalog sheets or consult factory for additional accessories.

**Convenience Receptacles** One 115/1/60 convenience receptacles provided inside chamber.

**Electrical Service Requirements** 115/1/60 - 11 amps (total) for standard chamber. Power cord and ground plug provided.



### ETA Associates

119 Foster Street, Bldg #6

Peabody, MA 01960

Tel: (978) 532-1330

Fax: (978) 532-7325

www.ETAassociates.com

eta@ETAassociates.com

