

# reach in plant growth

## Percival® model E-36VLHO

### applications

- Frequently used for research application such as seed germination, seedling development, growth of algae in flasks, lighting for vascular plants to facilitate standard plant production, plant pathology research, growth of the Arabidopsis plant
- Many other applications exist for this product  
*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](http://www.percival-scientific.com) for additional information regarding the control system.*

### lighting system

- Two externally mounted lampbanks, each containing fluorescent lights, reduce interior heat load while eliminating need to open chamber and remove shelves when changing light bulbs
- Externally mounted lamp banks separated from chamber growth space by glass side wall
- Intensity programmable up to 1000  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from lamps on 2 on/off light events (without drop-off due to low temperature)  
*For lower light requirements refer to E-36VL product page.*
- Programming and control of the lighting is done via IntellusUltra real time controller



E-36VL chamber shown

### 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)
- Each side wall has a glass with a viewing dimension of 21.5" x 49" (54.6 cm x 124.5 cm)
- Chamber floor equipped with floor drain and hose assembly
- Contains caster assembly and adjustable leveling legs to compensate for floor unevenness 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)

## E-36VLHO 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 <sup>3</sup>	m <sup>3</sup>	ft <sup>2</sup>	m <sup>2</sup>	in	cm	width		depth		height		
10-44±0.5	29.7	0.8	27	2.5	9.5	24.1	42.3	107.3	33.6	85.4	77.2	196.1	1000	5

# reach in plant growth Percival model E-36VLHO

## door

- One door opening 29.25" x 57.5" (74.3 cm x 146 cm) provides full access to the chamber interior (magnetic gasket provides a tight seal to door frame)

## interior space

- 29.7 ft<sup>3</sup> (0.8 m<sup>3</sup>) with work area of 27 ft<sup>2</sup> (2.5 m<sup>2</sup>) provided on five tiers

## shelving

- Five tiers of white epoxy coated steel wire shelving (each shelf is 27"D x 28.8"W [68.6 cm x 73 cm])
- Shelves are supported by shelf clips allowing ½" vertical adjustments
- Maximum clearance between shelves is 9.5" (24.1 cm) per tier with all five shelves installed

## finish

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

## refrigeration

- 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)
- Top mounted refrigeration system allows easy access for maintenance (e.g. cleaning)
- As heat is rejected, it rises and is dissipated into room without having any effect on inside temperature of cabinet
- Solenoid valves have extended stem for quiet and long life operation
- Ceiling mounted evaporator coil incorporates twin air circulation fans in aluminum housing (heat rejection to ambient [standard chamber] = 7600 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)

*This section outlines the H1 option*

- Additive humidity control of higher than ambient to 80% (±10%) lights on for set temperatures between 15° to 30°C

## humidity control (optional, continued)

- Humidity control of higher than ambient 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. If humidity system is selected as an option, a de-mineralized water supply is required which terminates to a ½" MPT connector.*

## options (most popular)

- Phenolic Coated Coils (required for drosophila research) (Q9)
- Glass door (Q12)
- IntellusUltra Connect (C9)
- IntellusUltra Connect and Android-based Touchscreen (C9T)
- IntellusUltra (standard) and Android-based Touchscreen (C8T)
- Pan-type humidifier with Electronic RH Sensor (H1)
- Pan-type humidifier and dehumidifier with Electronic RH sensor (H3)
- 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<sub>2</sub> enrichment package
- Door with observation window and cover (Q2)
- Door with fresh air ports (Q1)
- 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

- Two 115/1/60 convenience receptacles provided inside chamber

## electrical service requirements

- 120-208/1/60 - (one grounded cord and plug provided [NEMA L14-30], L1 = 17 amps and L2 = 15 amps)



Percival Scientific, Inc.  
505 Research Drive • Perry, IA 50220 USA  
800.695.2743 • 515.465.9363 • Fax: 515.465.9464  
[www.percival-scientific.com](http://www.percival-scientific.com)