REACH IN PLANT GROWTH

E-36L Reach in Plant Growth Chamber

Applications This chamber product is frequently used for research applications such as lighting for vascular plants to facilitate standard plant production, plant pathology research and seedling germination and development.

Many other applications exist for this product. Please compare your own requirements to the specifications listed below.

Controller Percival's Intellus controller is capable of controlling temperature, humidity, CO_2 and lighting events. The Standard Intellus Control System is a single-board electronic solid-state design with vacuum fluorescent display and ten-key membrane touchpad control. Programs are created and run in real time with up to 96 steps, non-ramping, or diurnal programming. The Advanced Intellus controller (optional) provides Ethernet connectivity, ramping, multiple programs, program linking and additional outputs.

Lighting System Each tier of shelves is lighted by (16) 17W cool white fluorescent lamps and (2) 40W incandescent lamps properly spaced for uniform light intensity. Intensity is adjustable up to 550 µmoles/m²/s of light irradiance is measured @ 6" from the lamps. Programming and control of the lighting is done via Intellus real time controller.

Airflow/Circulation Air circulation inside the chamber is from a specifically designed air diffuser. Air travels along the entire back wall, over the shelves and returns to the ceiling fans through an opening between the light fixture and the doors.

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)	# of Tiers
°C	ft3	m3	ft2	m2	in.	cm	(W)	(D)	(H)	µmoles/m²/s	
10-44±0.5	29.6	.84	10.9	1	20.5	52.1	33(85)	34(86)	77(195.6)	550	2

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Cabinet Construction 22-gauge interior and 18-gauge exterior electro-zinc plated steel construction. 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.

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 29 3/16" x 57 1/2" (74 cm x 146 cm) provides full access to the chamber interior. A magnetic gasket provides tight seal to door frame.

Interior Space 29.7 ft^3 (0.84 m^3) with a work area 10.9 ft^2 (1.0 m^2) provided on two tiers.

Shelving Two tiers of white epoxy coated steel wire shelving. Each shelf is 27" D x 28 3/4" W (68.6 cm x 73 cm). Shelves are supported by shelf clips which allow 1/2" vertical adjustments. The maximum clearance between shelves is 20 1/2" (52.1 cm) per tier with all shelving installed.

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

Refrigeration 1/2 h.p. 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 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 ceiling mounted and incorporates twin air circulation fans in an aluminum housing. Heat rejection to the ambient (standard chamber) = 5900 BTU/hr.

Temperature Range 10° - 44° C with all lights on (± 0.5° C) and 2° - 44° C with all lights off (± 0.5° 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 humidity control of higher than ambient to 60% (± 10%) lights on for set temperatures between 15° to 30° C. Humidity control of higher than ambient to 90% (± 10%) lights off for temperatures between 15° to 30° C. Extended humidity ranges available. See other catalog sheets or consult factory for additional information.

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$_2$ 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 Two 115/1/60 convenience receptacles provided inside chamber.

Electrical Service Requirements 115/1/60 - two grounded cords and plugs provided - (1) 9-amp cord (1) 10-amp cord.