

# plant tissue culture

## Percival model CU41L4

### applications

- Specifically designed for plant cell culture
  - Unique design of air diffuser with slow vertical airflow, fixed lampbank and slide-out shelves helps to eliminate condensation on Petri dish lids
  - 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 CO<sub>2</sub> (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](http://www.percival-scientific.com) for additional information regarding the control system.*

### lighting system

- Each tier of shelves lighted by (4) F25T8/TL741 lamps properly spaced for uniform light intensity over entire shelf
- Intensity programmable up to 220  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from lamps on 2 on/off light events



### lighting system (continued)

- 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
- 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)
- One 1½" diameter access port on R.H. wall
- Stainless steel chamber floor equipped with floor drain and hose assembly
- Contains caster assembly and adjustable leveling legs to compensate for floor unevenness in the lab

## CU-41L4 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		
							in	cm	in	cm	in	cm	$\mu\text{moles}/\text{m}^2/\text{s}$	
10-44±0.5	37.2	1.1	27.2	2.5	7.5	19.1	41	104.1	33.6	85.4	77.2	196.1	220	4

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## airflow/circulation

- Conditioned air circulates through a rear wall duct and is picked up by a specially designed fixed air diffuser located at the bottom of each tier (air is then delivered vertically upward at a slow speed through each shelf)
- Air diffuser insulates shelf level experiments from heat generated by underlying light fixture (this design minimizes condensation on dish lids)

## 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 37.2" x 57.5" (74 cm x 146 cm) provides full access to the chamber interior (magnetic gasket provides a tight seal to door frame)

## interior space

- 37.2 ft<sup>3</sup> (1.1 m<sup>3</sup>) with work area of 27.2 ft<sup>2</sup> (2.5 m<sup>2</sup>) provided on four shelves

## shelving

- Four tiers of white epoxy coated steel wire shelving (each shelf is 27"D x 36.3"W [68.6 cm x 92.1 cm])
- Shelves slide in and out easily on stainless steel rail assemblies
- Maximum growing height is 7.5" (19.1 cm)

## 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)
- Solenoid valves have an 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] = 3400 BTU/hr.)

## temperature range

- 7°-44°C (±0.7°C) lights on and 4°-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)

## options (most popular)

- Intellus Ultra Web Server (C9)
- Communications Software (C9+)
- Intellus Ultra with Touchscreen and Internet capabilities (C10)
- 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

- 115/1/60 - (two grounded cords and plug provided, [1] 9 amp cord and [1] 7 amp cord)  
Consult factory for electrical services when adding accessories to the chamber



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