

# SPECIAL APPLICATION

## CU-30L2 Tissue Culture Chamber



**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** Each tier of shelves is lighted by (4) F17T8/TL741, fluorescent lamps properly spaced for uniform light intensity over entire shelf. Intensity is adjustable up to 235  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from the lamps. Programming and control of the lighting is done via Intellus Ultra real time controller. There are two levels of programming of fluorescent lighting (0  $\mu\text{moles}/\text{m}^2/\text{s}$ , 115  $\mu\text{moles}/\text{m}^2/\text{s}$  and 235  $\mu\text{moles}/\text{m}^2/\text{s}$ ).

**Air Flow** The 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. The air is then delivered vertically upward at a slow speed through each shelf. The air diffuser insulates shelf level experiments from the heat generated by the underlying light fixture. This design minimizes condensation on petri dish lids.

**Applications** This chamber was specifically designed for plant cell culture. Its 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.

| Temp Range<br>(with all lights on) | Interior Space<br>(volume) |                 | Work Area      |                 | Maximum Growing Height |      | Exterior Dimensions<br>in. (cm) |             |            | Light Intensity<br>(6" from lamps unless otherwise noted) | # of Tiers                            |
|------------------------------------|----------------------------|-----------------|----------------|-----------------|------------------------|------|---------------------------------|-------------|------------|---|---------------------------------------|
|                                    | °C                         | ft <sup>3</sup> | m <sup>3</sup> | ft <sup>2</sup> | m <sup>2</sup>         | in.  | cm                              | (W)         | (D)        | (H)   | $\mu\text{moles}/\text{m}^2/\text{s}$ |
| 10-44±0.5                          | 8                          | 0.23            | 6.07           | .56             | 7 1/8                  | 18.1 | 31 (78.7)                       | 23.8 (60.3) | 46 (116.8) | up to 235   | 2                                     |

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**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. Overall wall thickness is 2" (5.1cm).

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

**Door** One door opening 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 a tight seal to door frame.

**Interior Space** 8 ft.<sup>3</sup> (0.23 m<sup>3</sup>) with a work area 6.07 ft.<sup>2</sup> (.56 m<sup>2</sup>) provided on two tiers.

**Shelving** Two tiers of white epoxy coated steel wire shelving. Each shelf is 16 3/8"D x 26 1/2"W (41.6 cm x 67.3 cm). Shelves slide in and out easily on stainless steel rail assemblies. The maximum growing height is 7 1/8" (18.1 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 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 an air circulation fan. Heat rejection to ambient (standard chamber) = 3200 BTU/hr.

**Temperature Range** 10° - 44° C ( $\pm 0.5^\circ$  C lights on) or 2° - 44° C ( $\pm 0.5^\circ$  C lights off).

**Temperature Safety Limit Controls** (Experiment Protection) Adjustable high and low temperature controls, audible alarms and visual indicators are provided. The controls shutdown all power to the chamber and the alarms are activated. 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 with Touchscreen and Internet capabilities (C10), 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 - 11 amps (total) for standard chamber. Power cord and grounded plug provided. Consult factory for electrical services when adding accessories to the chamber.



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