



GENEVA SCIENTIFIC

LAB EQUIPMENT SOLUTIONS

REACH IN PLANT GROWTH CHAMBER - PGC-20L1



| | |
|---------------------------------|-------------------------|
| Model | PGC-20L1 |
| Exterior Dimensions (WxDxH) | 100.5" x 40.6" x 111.1" |
| Temp. Range (w/ lights on) | 10-44C +/- 1.0C |
| Interior Space | 147.9 cu.ft. |
| Total Shelving Floor Area | 20.1 sq.ft. |
| Maximum Growing Height | 65" |
| Light Intensity (6" from lamps) | 1,200 micromoles/m2/sec |
| Number of Tiers | 1 |

Applications

*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

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.

Lighting System

*Intensity is adjustable up to 1200 micromoles/m2/sec of light irradiance measured at 6" from lamps, utilizing a balanced spectrum for plant growth using T-5 high output fluorescent lamps plus extended life tungsten incandescent lamps.

*Design produces a constant light irradiance throughout chamber's temperature range.

Lighting System cont.

*Light dimming is accomplished in an "open loop" configuration where a set point is entered into controller as a percentage (controller scales its output voltage to the ballasts, corresponding with the set point), ballast limitations do not allow system to be dimmed below 10% of maximum light output (dimming range of 10%-100% of light output is adjustable in 1% increments)

*Patent lamp bank is specifically designed to optimize energy efficiency by managing the heat inside the lamp bank (U.S. patent No 7,794,105)

*Optimum lighting conditions are maintained by controlling the temperature inside the light fixture to the lamp's optimum operational temperature (lighting module is separated from the environmental area by a thermal barrier [by using a barrier, the vertical temperature gradient inside the chamber will be improved])

*Ballasts are located inside each light fixture section (access is gained by removing lamps and opening a hinged door on which the ballasts are mounted [although electronic dimmable ballasts do not allow for remote mounting, Percival has made accessibility easy through use of the hinged door design, aiding serviceability for the technician])

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Airflow/Circulation

*Chamber airflow can be configured as either horizontal or vertical (vertical airflow: upward through perforated aluminum floor [requires closing the perforated side plenum sliders and opening floor air block damper])(horizontal airflow: across the growth area via perforated air diffusers on rear wall [requires opening the rear plenum sliders and closing floor air block damper])

*Adjustable fresh air exchange system

Cabinet Construction

*Chambers built in panel sections each consisting of 2" thick urethane insulation

*Cam-type fasteners and vinyl gaskets

*Interior and exterior constructed of 22-gauge electro-zinc plated steel

*Stainless steel floor

*Chamber floor equipped with floor drain with attached 3/4" plastic tubing

*Chamber cabinet is attached to angle frame base containing heavy duty swivel casters

Insulation

*Woodless construction using foam-in-place 2" thick CFC free urethane insulation foam (this is an environmentally friendly foam with global warming potential [GWP] of 0.0 and ozone depletion potential [ODP] of 0.0)

Doors

*Two reach-in doors each with an opening of 29.3" x 57.3" (magnetic gasket provides a tight seal to door frame)

Interior Space

*147.9 cu.ft. with work area of 20.1 sq.ft. provided on one tier

Finish

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

Convenience Receptacles

*Two convenience receptacles provided inside chamber

Refrigeration

*Self-contained water-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 alternating 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 extended stem for quiet and long life operation

*Heat rejection to the ambient (standard refrigeration system) with water-cooled self-contained condensing unit = 2500 BTU/hr

*Optional outdoor all weather air-cooled condensing unit

Temperature Range

*2-44C (+/- 0.5C) lights off and 10-44C (+/- 0.5C) lights on (full fresh air) within work area on horizontal plane

Temperature Safety Limit Controls

*Experiment Protection: Adjustable high and low temperature controls, audible alarms, and visual indicators provided

*Controls shut down all power to chamber, activating alarms (when the temperature returns to the normal range the system will automatically reset)

Electrical Requirements

*Consult Geneva Scientific for electrical requirements and amperage draw.

Options

*Additive Humidity Control with Sensor

*Dehumidifier with Sensor

*CO2 Enrichment Package

*IntellusUltra Connect

*Android-Based Touch Screen

*Dry Alarm Contacts

*Security Package

*Temperature Recorder



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