

Plant Growth

Percival® model PGC-105L1

Standard SciWhite® lighting



Applications

- This chamber is frequently used for cereals, citrus, grapes, grasses and other plants that require high light intensity and higher growth height
- Many other applications exist for this product

Please compare your own requirements to the specifications listed below.

Percival's IntellusUltra Controller

The IntellusUltra control system (C8) was purpose-built for controlled environments and is standard on all Percival chambers.

- Robust and reliable, industrial-grade integrated hardware design
- Highly flexible architecture facilitates configuration, expansion and customization
- Precise, simultaneous control of up to 7 environmental parameters
- Industry-leading experiment protection and system diagnostics

IntellusUltra Control Graphical User Interface

A touchscreen user interface is provided as standard on all Percival Scientific plant growth chambers and allows users to interact with their controlled environment in new and intuitive ways.

- 10.1" IPS, high resolution display with 10-point multi-touch sensitivity
- Tabular and graphical presentation of chamber programs and parameters
- Highly visible process values and alarm notifications
- Enhanced user feedback menus

Please refer to www.percival-scientific.com for additional information regarding the control systems.



SciWhite LED Lighting System

- One tier of lighted shelving lit by SciWhite LEDs with enhanced red
- Intensity programmable up to 1,450 $\mu\text{moles/m}^2/\text{s}$ of light irradiance measured @ 6" from LEDs
- Programming and control of the lighting is done via IntellusUltra real time controller
- Lamp bank is vertically adjustable
- Dimmable between 10-100% output
- Open loop dimmable lighting

Cabinet Construction

- Interior constructed of 24-gauge galvanized steel
- Interior floor constructed of 22-gauge polished stainless steel
- Exterior constructed of 24-gauge Galvannealed extra-smooth steel
- Overall wall thickness is 2" (5.1 cm)
- Integrated floor drain
- Contains casters assembly and adjustable leveling legs
- Two 1.25" access ports with air-tight plugs
- Highly durable and reflective coating

PGC-105L1 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
							width		depth		height			
°C	ft³	m³	ft²	m²	in	cm	in	cm	in	cm	in	cm	µmoles/m²/s	
7-44±0.5	108.3	3.1	17.1	1.6	56	142.2	105.9	269	38.8*	98.6	78.8	200	1,450	1

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Airflow/Circulation

- Conditioned air moves in uniform upward direction through entire work bench through perforations in aluminum channels
- Fresh air inlet and outlet are adjustable

Insulation

- Woodless construction using foam-in-place 2" [5.1 cm] 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 25.8" x 48.3" (65.6 cm x 122.7 cm) providing full access to chamber interior
- Magnetic gasket provides a tight seal to door frame
- 12" x 12" (30.5 cm x 30.5 cm) observation window with a light tight cover

Interior Space

- 108.3 ft³ (3.1 m³) with work area of 17.1 ft² (1.6 m²) provided on one tier
- Tier is 73"W x 31.5"D (185.4 cm x 780 cm)
- Maximum growing height is 56" (142.2 cm)

Refrigeration

- Self-contained air-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and tight temperature control. Continuous running condensing unit ensures precise temperature control by alternately cycling refrigerant and hot gas to coil; also prolongs compressor life, and eliminates risk of ice build up in coil.
- Extended stem solenoid valves for quiet and long life operation
- Heat rejection to the ambient (standard refrigeration system) = 5,628 BTU/hr.

Temperature Range

- 2°-44°C (±0.5°C) lights off and 7°-44°C (±0.5°C) lights on (full fresh air) within work area on horizontal plane with lights on

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
- System automatically resets when temperature returns to normal range

Humidity Control (optional)

- Ultrasonic Humidifier with Advanced RH Sensor (H11)
- Ultrasonic Humidifier and Dehumidifier with Advanced RH Sensor (H12)
- Ultrasonic Humidifier with Electronic RH sensor (H14)
- Ultrasonic Humidifier and Dehumidifier with Electronic RH sensor (H15)

See other specification sheets or consult factory for additional information.

Options (most popular)

- IntellusUltra Connect (C9)
- Additive CO₂ control
- CO₂ removal system
- Self-contained water-cooled condensing unit
- Dry alarm contacts
- Closed loop dimmable lighting with PAR light sensor (Q22)
- Extended temperature ranges available
- Convenience receptacles

Contact info@percival-scientific.com with questions or for additional information.

Electrical Service Requirements

- 120/208/1/60 (4-wire, plus ground) with direct-wire field connection terminals
- RLA=13.8 (MCA=17.3)

Regulatory Standards

- Electrical Safety: UL-508A, certified and labelled by Percival Scientific under UL file number E340161
- Quality System: ISO 9001:2015, certified under DQS, Inc. under certification number 10017261

Helping You Create Better Science

Percival Scientific controlled environment systems are the culmination of over 60 years of design and manufacturing experience. We developed our high-quality products through direct partnerships within the scientific community. Our controlled environments are known for their customizable designs and superior, long-lasting performance. Creativity, passion, technical expertise and attention to detail drive our scientific innovation, and we are proud to help you create better science.



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