

# plant growth

## Percival® model PGC40L2

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.*

### 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](http://www.percival-scientific.com) for additional information regarding the control systems.*

### SciWhite LED lighting system

- Two tiers of lighted shelving lit by SciWhite LEDs with enhanced red
- Intensity programmable up to 1,200  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from LEDs
- Programming and control of the lighting is done via IntellusUltra real time controller
- Dimmable between 10-100% output

### 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-40L2 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	$\mu\text{moles}/\text{m}^2/\text{s}$	
7-44±0.5	147.9	4.2	36.7	3.4	32.7	83	100.5	255.3	40.6	103.2	111.1	282.3	1,200	2

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## airflow/circulation

- Uniform air circulation moves across each shelf through air diffusers on the rear wall
- 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 door

## 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 each with an opening of 29" x 57.3" (73.7 cm x 145.4 cm)
- Magnetic gasket provides a tight seal to door frame

## interior space

- 147.9ft<sup>3</sup> (4.2 m<sup>3</sup>) with work area of 36.7 ft<sup>2</sup> (3.4 m<sup>2</sup>) provided on two tiers

## refrigeration

- Self-contained water-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) = 1,791 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 CO<sub>2</sub> control
- CO<sub>2</sub> removal system
- Self-contained air-cooled condensing unit
- Dry alarm contacts
- Closed loop dimmable lighting with PAR light sensor (Q22)
- Open loop dimmable lighting per tier (Q23<sup>+</sup>)
- Extended temperature ranges available
- Convenience receptacles

*Contact [info@percival-scientific.com](mailto:info@percival-scientific.com) with questions or for additional information.*

## electrical service requirements

- 120/208/3/60 (4-wire, plus ground) with direct-wire field connection terminals
- RLA=15.2 (MCA=19)

## 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. Our high quality products have been developed through direct partnerships with the scientific community and offer platforms that are highly customizable and provide superior performance. We understand that scientific innovation is bred through creativity, passion, technical expertise and attention to detail, and we are proud to help you create better science.



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