

Arabidopsis

Percival® model AR-41L3

Standard SciWhite® LED lighting for plant growth

Applications

- Designed for *Arabidopsis thaliana* and other low light plant growth and many more applications

IntellusUltra Controller

The IntellusUltra (C8T) control system adapts to nearly any programming style with a large range of options for optimal control over experiments.

- Robust and reliable, industrial-grade integrated hardware design
- Highly flexible programming capabilities for customized configurations and expansion
- Precise, simultaneous control of up to 7 environmental parameters
- Industry-leading experiment protection and system diagnostics

IntellusUltra Touchscreen Interface

This high-resolution touchscreen displays advanced settings and data for fine-tuning experiments, including graphs and charts.

- 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 visit www.percival-scientific.com for more information on our control systems.

SciWhite LED Lighting System

- Three tiers of lighted shelving lit by SciWhite LEDs with enhanced red for plant growth
- Intensity programmable up to 405 $\mu\text{moles}/\text{m}^2/\text{s}$ of light irradiance measured @ 6" from LEDs
- Programming/real-time control through the IntellusUltra touchscreen
- Dimmable output from 10-100% in one-percent increments

AR-41L3 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	37.2	1.1	20.4	1.9	15.1	38.3	41	104.1	33.6	85.4	77.2	196.1	405	3



Airflow/Circulation

- Air circulation inside chamber is from a specifically designed adjustable air diffuser; conditioned air travels along the entire back wall, over the shelves and returns to the ceiling fans through an opening between the light fixtures and the doors
- Direction: horizontal
- Airspeed fpm (feet per minute): 30

Cabinet Construction

- Interior constructed of 26-gauge galvanized steel
- Interior floor constructed of 24-gauge polished stainless steel
- Exterior constructed of 24-gauge Galvannealed extra-smooth steel
- NSF-compliant seam design
- Overall wall thickness is 2" (5.1 cm)
- Integrated floor drain
- Contains casters assembly and adjustable leveling legs
- One 1.25" access port with air-tight plug
- Highly durable and reflective white coating

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Insulation

- Construction using 2" high-grade materials, such as closed-cell and non-CFC Urethane insulation

Door

- One door opening 36.8" x 57.5" (93.3 cm x 146.1 cm) provides full access to the chamber interior
- Magnetic gasket provides a tight seal to door frame
- Lift-off hinge design allows for simple removal of door

Interior Space

- 37.2 ft³ (1.1 m³) with shelf area of 20.4 ft² (1.9 m²) provided on three tiers

Shelving

- Three tiers of white epoxy coated steel wire shelving (each shelf is 36.3"W x 27"D [92.1 cm x 68.6 cm])
- Each shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 15.1" (38.3 cm)

Refrigeration

- Top-mounted air-cooled condensing unit with hot gas bypass system (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 buildup in coil)
- Extended stem solenoid valves for quiet and long life operation
- Ceiling-mounted evaporator coils incorporate dual air circulation fans in aluminum housing
- Heat rejection to the ambient (standard refrigeration system) = 3,196 BTU/hr

Temperature Range

- 7°-44°C (±0.5°C) lights on and 2°-44°C (±0.5°C) lights off

Temperature Safety Limit Controls

- Experiment protection (adjustable high/low temperature control, audible alarms and visual indicators)
- 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 contact Percival Scientific 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)
- Open loop dimmable lighting per tier (Q23+)
- Extended temperature ranges available
- Convenience receptacles

Contact info@percival-scientific.com for additional information.

Electrical Service Requirements

- 120/1/60: two grounded cords each with NEMA 5-15P plug provided (with standard chamber)
- Cord #1 RLA=7.0
Cord #2 RLA=9.9 (combined MCA=21.2)

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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