

arabidopsis

Percival model AR-95L3

applications

- Designed for growth of the Arabidopsis plant
- 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
Please compare your own requirements to the specifications listed below.

percival's intellus ultra controller

- Controls temperature, lighting, humidity (optional) and CO₂ (optional)
- Single-board electronic solid-state design includes 10 key membrane keypad with LED indicators and vacuum fluorescent display
- Programs can be configured to run in real time or elapsed time
- Ramping and non-ramping program methods available for each programming mode
- Multiple programs can be linked creating complex environmental profiles
- Optional Intellus Web Server allows monitoring and controlling of chamber via web browser (requires Internet Explorer 6.0+) (this option allows for remote monitoring and programming of chamber including alerts and current condition updates for up to five e-mail addresses)
Please refer to www.percival-scientific.com for additional information regarding the control system.

lighting system

- Two light fixtures per tier (each fixture is removable and individually adjustable)
- Light fixtures yield up to 300 $\mu\text{moles}/\text{m}^2/\text{s}$ @ 6" from lamps, utilizing a balanced spectrum for plant growth using fluorescent and incandescent lamps
- Two levels of programming of fluorescent lighting and two levels of programming of incandescent lighting (therefore with 50% of each lamp energized the chamber yields 300 $\mu\text{moles}/\text{m}^2/\text{s}$ @ 6" from lamps)



lighting system (continued)

- Programming and control of the lighting is done via Intellus real time controller

airflow/circulation

- Air circulation inside chamber is from a specifically designed air diffuser (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)

cabinet construction

- Standard chamber controls are on right hand side
- Chambers built in panel sections each consisting of 2" (5.1 cm) thick urethane insulation
- Metal interior and exterior surfaces
- 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
- Three 1 1/4" diameter access ports

AR-95L3 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 ³	m ³	ft ²	m ²	in	cm	width		depth		height		
10-44±1.0	95.9	2.7	42.9	4	16	40.6	95.9	243.5	37.1	94.3	78.5	199.4	300	3

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insulation

- Woodless construction using CFC free polystyrene foam (overall wall thickness is 2" [5.1 cm], ample insulation for maintenance of stated temperature range)

doors

- Two doors each with an opening of 29.3" x 57.3" (74 cm x 146 cm) providing full access to chamber interior (magnetic gasket provides a tight seal to door frame)

shelving

- Six shelves (three tiers) of white epoxy coated steel wire shelving (each shelf is 28.7" D x 36.8" W [78.9 cm x 93.3 cm])
- Shelves are adjustable in ½" increments

finish

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

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 alternately 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 by standard refrigeration system with a water-cooled self-contained condensing unit is 2000 BTU/hr.
- Heat rejection to the ambient from an optional air-cooled self-contained condensing unit is 14000 BTU/hr.
- Condensing Unit Water Requirement: 65 GPH (average),
- 7.0 PSIG pressure drop
- ½" water-regulating valve
- Water coolant supply is 60°F on inlet and 70°F at outlet (with evaporator coil at 25°F and condenser at 100°F)
Consult factory for water services and heat rejection to the ambient when adding accessories to the chamber.

temperature range

- 4°-44°C (±1°C) lights off and 10°-44°C (±1°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 (when the temperature returns to the normal range the system will automatically reset)

humidity control (optional)

- Additive control of humidity in %RH through use of ultrasonic humidifier will maintain humidity levels of higher than ambient to 95% RH lights off and higher than ambient to 75% lights on, between 15° to 30°C
- Humidifier requires distilled or de-mineralized water
Optional dehumidification via independent coiling coil and reheat heaters will maintain humidity levels down to 40% RH between 15°C and 30°C

options (most popular)

- Intellus Ultra Web Server (C9)
- Communications Software (C9+)
- Intellus Ultra with Touchscreen and Internet capabilities (C10)
- Ultrasonic Humidifier with advanced RH Sensor (H11)
- Dehumidification via independent dehumidifying coil with reheat heaters and Ultrasonic Humidifier (H12)
- Ultrasonic Humidifier with Electronic RH sensor (H14)
- CO₂ enrichment package
- Door with observation window and cover (Q2)
- Door with fresh air ports (Q1)
- Self-contained air-cooled condensing unit
- Remote air-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

- 120 - 208 VAC/3 phase/60 Hz, 4 wires plus ground
- Total amp draw for standard chambers without any options is 15 amps/leg
Consult factory for electrical services when adding accessories to the chamber



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