

arabidopsis

Percival® model AR-100L3

applications

- This chamber is frequently used for *Arabidopsis thaliana*, *Brassica sp.*, lettuce, spinach and other plants with lower light intensity requirements
- Many other applications exist for this product

Please compare your own requirements to the specifications listed below.

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.

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

lighting system

- Each tier of shelves lighted by energy efficient T8 fluorescent lamps plus halogen lamps
- Intensity programmable up to 300 $\mu\text{moles}/\text{m}^2/\text{s}$ @ 6" from lamps on 3 on/off light events
- Two levels of programming of fluorescent lighting and one level of programming of incandescent lighting
- Programming and control of the lighting is done via IntellusUltra 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

- Interior and exterior constructed of 22-gauge electro-zinc plated steel
- Stainless steel floor
- Chamber floor equipped with floor drain with attached $\frac{3}{4}$ " plastic tubing
- Chamber cabinet is attached to angle frame base containing heavy duty swivel casters
- Insulated chamber box 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 (this type of construction allows the chamber to be installed on site without the problems of door, aisle and elevator clearances)
- Two 1 $\frac{1}{4}$ " diameter access ports

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 29.3" x 57.5" (74 cm x 146 cm) providing full access to chamber interior (magnetic gasket provides a tight seal to door frame)

AR-100L3 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±0.7	147.9	4.2	55.1	5.1	20.3	51.4	100.5	255.3	40.6	103.2	111.1	282.3	300	3

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interior space

- 147.9 ft³ (4.2 m³) with work area of 55.1 ft² (5.1 m²) provided on three tiers

shelving

- Six shelves (three tiers) constructed of 22-gauge stainless steel with no perforations (each shelf is 27.8" D x 47.7" W [70.5 cm x 121 cm])
- Shelves are vertically adjustable in ½" increments (maximum growing height is 20.3" [51.4 cm] per tier)

finish

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

refrigeration

- Refrigerant is CFC and HCFC free R-134a (HFC-134a) (this refrigerant has an ODP [ozone depletion potential] of 0.0)
- Scroll type compressor for longer life, quieter and more efficient performance
- Refrigeration system is 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 the coil; also prolonging the life of the compressor, and eliminating the risk of ice build up in the 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 = 2000 BTU/hr.
- Heat rejection to the ambient (standard refrigeration system) with air-cooled self contained condensing unit = 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, 70°F at outlet with the evaporator coil at 25°F, and 100°F at the condenser
Consult factory for water services and heat rejection to ambient when adding accessories to the chamber

temperature range

- 4°-44°C (±0.5°C) lights off and 10°-44°C (±0.7°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 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)

- IntellusUltra Connect (C9)
- IntellusUltra Connect and Android-based Touchscreen (C9T)
- IntellusUltra (standard) and Android-based Touchscreen (C8T)
- 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

- 120-208/3/60, RLA=16.7, MCA=20.9
Chamber must be direct-wired to a terminal block inside of the mechanical section.



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