

# arabidopsis

## Percival® model AR-41L3

### applications

- Designed for growth of the Arabidopsis plant
- Provides adequate space for growing the plant to maturity under controlled temperature, humidity and light conditions
- Many other applications exist for this product

*Please compare your own requirements to the specifications listed below.*

### percival's IntellusUltra™ controller

- Controls temperature, lighting, humidity (optional) and CO<sub>2</sub> (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 IntellusUltra 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](http://www.percival-scientific.com) for additional information regarding the control system.*

### lighting system

- Each tier of shelves lighted by (8) F25T8/TL741 fluorescent lamps and (2) 25W incandescent lamps properly spaced for uniform light intensity over entire shelf
- Intensity programmable up to 330  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from lamps 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

- Conditioned air circulates through a rear wall plenum, and travels horizontally across each shelf (air then flows vertically upward through the space between the door and shelves back to the unit cooler)

### cabinet construction

- Interior constructed of 22-gauge electro-zinc plated steel
- Exterior constructed of 18-gauge exterior electro-zinc plated steel
- Welded seams and joints on outer and inner shells
- Inner shell supported by non-compressing/non-thermal conducting material locking inner liner in place without a metal-to-metal bond to outer case
- Chamber is completely self-contained
- Overall wall thickness is 2" (5.1 cm)
- One 1½" diameter access port on R.H. wall
- Stainless steel chamber floor equipped with floor drain and hose assembly
- Contains caster assembly and adjustable leveling legs to compensate for floor unevenness in the lab

## 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
	°C	ft <sup>3</sup>	m <sup>3</sup>	ft <sup>2</sup>	m <sup>2</sup>	in	cm	width		depth		height		
°C	ft <sup>3</sup>	m <sup>3</sup>	ft <sup>2</sup>	m <sup>2</sup>	in	cm	in	cm	in	cm	in	cm	$\mu\text{moles}/\text{m}^2/\text{s}$	
10-44±0.7	37.2	1.1	20.4	1.9	12.5	31.8	41	104.1	33.6	85.4	77.2	196.1	330	3

# arabidopsis Percival model AR-41L3

## insulation

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

## doors

- One door opening 37.2" x 57.5" (94.4 cm x 146 cm) providing full access to chamber interior (magnetic gasket provides a tight seal to door frame)

## interior space

- 37.2 ft<sup>3</sup> (1.1 m<sup>3</sup>) with work area of 13.6 ft<sup>2</sup> (1.3 m<sup>2</sup>) provided on two shelves

## shelving

- Two tiers of 22-gauge stainless steel with no perforations (each shelf is 27"D x 36.3"W [68.6 cm x 92.1 cm])
- Shelves slide in and out easily on stainless steel rail assemblies (at lower elevation only)
- When shelves are not mounted on rail assemblies, they are vertically adjustable in ½" increments
- Maximum growing height is 21.1" (53.5 cm) per tier

## finish

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

## refrigeration

- Self-contained air-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
- Ceiling mounted evaporator coil incorporates twin air circulation fans in aluminum housing (heat rejection to ambient [standard chamber] = 3500 BTU/hr.)

## temperature range

- 7°-44°C (±0.5°C) lights on and 4°-44°C (±0.5°C) lights off

## 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 humidity control of higher than ambient to 75% (±5%) lights on for set temperatures between 15° to 30°C
- Humidity control of higher than ambient to 95% (±5%) lights off for set temperatures between 15° to 30°C
- Extended humidity ranges available  
*See other specification sheets or consult factory for additional information.*

## options (most popular)

- IntellusUltra™ Web Server (C9)
- Communications Software (C9+)
- IntellusUltra 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)
- CO<sub>2</sub> enrichment package
- Door with observation window and cover (Q2)
- Door with fresh air ports (Q1)
- Self-contained water-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

- 115/1/60 - (two power cords and grounded plugs provided, [1] 7.1 amp cord and [1] 9.5 amp cord)  
*Consult factory for electrical services when adding accessories to the chamber*



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