

# seed germination

## Percival® model GR-41VL



### applications

- This chamber is designed for seed germination and development
- 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](http://www.percival-scientific.com) for additional information regarding the control system.*

### lighting system

- Fluorescent lamps vertically mounted (three per side) on each side of shelf
- Intensity programmable up to 75  $\mu\text{moles}/\text{m}^2/\text{s}$  of light irradiance measured @ 6" from lamps on 2 on/off light events
- Programming and control of the lighting is done via IntellusUltra real time controller
- Two levels of programming of fluorescent lighting

### cabinet construction

- 26-gauge smooth galvanized white side walls and top reinforced with 24-gauge backer plates
- Interior floor constructed of 24-gauge #304-4 stainless steel
- 24-gauge smooth white galvanized exterior
- NSF compliant seam design
- Overall wall thickness 2"
- Foamed-in-place non-CFC insulation (refer to insulation section)
- One 1¼" diameter access port on right hand wall
- Chamber floor equipped with floor drain and hose assembly
- Contains casters assembly and adjustable leveling legs to compensate for floor unevenness in the lab

### insulation

- Woodless construction using 2" thick foamed-in-place non-CFC Urethane insulation with 93% closed cell, R-value of 12.5, K-value of 0.16 and density of 2.2 lbs/ft<sup>3</sup>

## GR-41VL 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		
5-44±0.5	37.2	1.1	41.1	3.8	8	20.3	41	104.1	33.6	85.4	77.2	196.1	75	6

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## door

- One door opening 37.2" x 57.5" (94.4 cm x 146 cm) provides full access to the 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 41.1 ft<sup>2</sup> (3.8 m<sup>2</sup>) provided on six tiers

## shelving

- Six tiers of white epoxy coated steel wire shelving (each shelf is 27"D x 36.6"W [68.6 cm x 92.9 cm])
- Shelves are supported by shelf clips allowing ½" vertical adjustments
- Maximum clearance between shelves is 8" (20.3 cm) per tier with all six shelves installed

## 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)
- Top mounted refrigeration system allows easy access for maintenance (e.g. cleaning)
- As heat is rejected, it rises and is dissipated into room without having any effect on inside temperature of cabinet
- 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] = 3600 BTU/hr.)

## temperature range

- 5°-44°C (±0.5°C) lights on and 2°-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)

*This section outlines the H1 option*

- Additive humidity control of higher than ambient to 85% (±10%) lights on for set temperatures between 15° to 30°C

## humidity control (optional, continued)

- Humidity control of higher than ambient to 90% (±10%) lights off for set temperatures between 15° to 30°C
  - Extended humidity ranges available
- See other specification sheets or consult factory for additional information. If humidity system is selected as an option, a de-mineralized water supply is required which terminates to a ½" MPT connector.*

## options (most popular)

- Glass Door (Q12)
  - IntellusUltra Connect (C9)
  - IntellusUltra Connect and Android-based Touchscreen (C9T)
  - IntellusUltra (standard) and Android-based Touchscreen (C8T)
  - Pan-type humidifier with Electronic RH sensor (H1)
  - Pan-type humidifier and dehumidifier with Electronic RH Sensor (H3)
  - 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 each compartment

## electrical service requirements

- 115/1/60 - two grounded cords each with NEMA 5-15P plug provided for standard chamber
- Cord #1 RLA=6.3 & cord #2 RLA=9.5 (combined MCA=19.8)



Percival Scientific, Inc.  
505 Research Drive • Perry, IA 50220 USA  
800.695.2743 • 515.465.9363 • Fax: 515.465.9464  
[www.percival-scientific.com](http://www.percival-scientific.com)