

reach in plant growth

Percival® model PGC-105

PGC-105 uses patented high efficiency lamp bank

applications

- 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 IntellusUltra™ 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 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 for additional information regarding the control system.

lighting system

- Single tier plant growth bench lit by patented lamp bank specifically designed to optimize energy efficiency by managing the heat inside the lamp bank
- Design produces a constant light irradiance throughout a chamber's temperature range
- Intensity programmable up to 1100 $\mu\text{moles}/\text{m}^2/\text{s}$ measured @ 6" from barrier, utilizing a balanced spectrum for plant growth using twin T-5 fluorescent lamps and extended life tungsten incandescent lamps on 3 on/off light events



lighting system (continued)

- Lamp bank is counter-balanced for adjustable light intensity
- Two levels of programming of fluorescent lighting and one level of programming of incandescent lighting done via IntellusUltra real time controller

airflow/circulation

- Conditioned air moves in uniform upward direction through entire work bench through perforations in aluminum channels
- Fresh air inlet and outlet are adjustable

cabinet construction

- Interior and exterior constructed of 22-gauge electro-zinc plated steel
- Stainless steel floor
- Perforated aluminum channel work bench
- Inner shell supported by thermal conducting insulator locking inner liner in place without a metal-to-metal bond to outer case
- 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

PGC-105 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±0.5	106.7	3	15.9	1.5	54	137.2	105.6	268.1	38.5*	97.8	77.6	197	1100	1

*35.5" with door removed

reach in plant growth Percival model PGC-105

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)

door

- Two reach-in doors each with an opening of 26" x 48.5" (66 cm x 123.2 cm) (magnetic gasket provides a tight seal to door frame)

interior space

- 106.7 ft³ (3 m³) with work area of 15.9 ft² (1.5 m²) provided on one tier

shelving

- One tier of white epoxy coated steel wire shelving (shelf is 72.9"D x 31.5"W [185.2 cm x 80 cm])
- Shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 54" (70 cm)

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 (standard refrigeration system) with water-cooled self-contained condensing unit = 3000 BTU/hr.
- Heat rejection to the ambient (standard refrigeration system) with air-cooled self contained condensing unit = 15000 BTU/hr.

temperature range

- 2°-44°C (±0.5°C) lights off and 10°-44°C (±0.5°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 humidifiers or spray nozzles will maintain humidity levels of up to 95% RH lights off and 75% lights on, between 15° and 30°C
- Humidifier requires distilled or de-mineralized water
- Optional dehumidification via independent cooling coil and reheat heaters will maintain humidity levels down to 40% RH between 15°C and 30°C

options (most popular)

- IntellusUltra™ Web Server (C9)
- Communications Software (C9+)
- IntellusUltra with Touchscreen and Internet capabilities (C10)
- Spray nozzle humidifier with advanced RH sensor and some dehumidification via reheat heaters (H9)
- Dehumidification via independent cooling coil with reheat heaters and spray nozzle humidifier (H8)
- 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
- Self-contained water-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 convenience receptacles provided inside chamber

electrical service requirements

- 208 VAC/3 phase/60 Hz, 4 wires plus ground
- Total amp draw for standard chambers without any options is 20 amps/leg

Consult factory for electrical services when adding accessories to the chamber



Percival Scientific, Inc.

505 Research Drive • Perry, IA 50220

800.695.2743 • 515.465.9363 • Fax: 515.465.9464

www.percival-scientific.com