RISHABH ENTERPRISES

Plant Growth Chamber

Model No.: RE-PGC-90L2

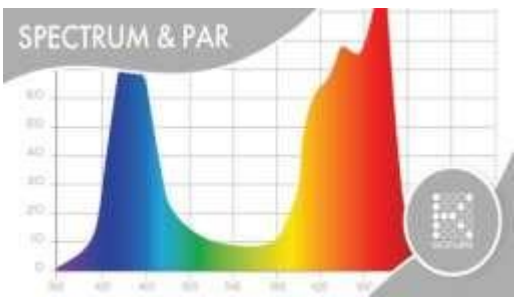
Applications/Features

Useful for Agricultural Lab / Plant Research / Fisheries Laboratory / Gardening / insect studies / Cell culture / Drosophila studies / Mosquito research / Biotechnology experiments / Analytical Lab / Food Science and Technology

Cabinet Construction

- Automatic Reach in chamber.
- Interior Construction: Interior is made from corrosion resistant wet painted galvanized steel.
- Exterior Construction: Exterior is wet painted and made from corrosion resistant 18-gauge smooth galvanized steel with welded seams & corners.
- For easy movement castor wheels, adjustable leveling feet and fresh Air exchange port/hole with light tight cap. Chamber contains floor drain.
- Two Shelves which are supported by shelf clips allowing ½" vertical adjustments and shelf of powder coated steel. Shelves dimension 69.1 cm x 72 cm (D x W).
- Two door opening with keyed lock provided by which total work area can be accessed. (magnetic gasket provides a tight seal to door frame).

Lighting System



- Illuminated growth chamber with horizontal multi-spectrum LED (with PAR spectrum) in each tier. Intensity programmable through controller.
- Growth chambers with diurnal settings for studying day & night cycle.
- Intensity programmable from 10-100% (Dimmable) with 780 µmole/m^2/s for each tier measured from 15cm from source. Additional light up to 1600 µmole/m^2/s can be provided as optional.

Refrigeration/Air Circulation:

- There is a self-contained top mounted air-cooled compressor and HOT gas bypass system for cooling and heating and (CFC/HCFC free Urethane) copper tube evaporator and solenoid valves for longevity.
- Pre-fabricated molecular panels with PUF insulation.
- Forced air circulation ensures the most reproducible test conditions. The unit is equipped with a hermetically sealed compressor & an independent over temp alarm. Two minutes delay timer for compressor will be given to protect it.
- The chamber air is gently and continuously circulated at a rate that ensures the temp and uniformity of all test samples. Air moves along the back wall, over tiers and return to ceiling fan to provide uniform air circulation in both directions. Equipped with adjustable fresh-air flow system and user-controlled fan speed settings.

Controller/Safety:

- Keypad based single microprocessor-based PID controller to program and run the system in Manual, Diurnal & Multi-step program ramping & non-ramping for Temp, RH, light and CO_2 to simulate weather conditions and multilayer protection system for controller operation security.
- Touchscreen with high resolution display with graphical view, and four level password protection.
- Adjustable high & low temperature alarm with audible-visible indicator. Automatically reset when temperature comes to normal after the power shutdown. Trouble shooting with onboard diagnostics. Dual experiment protection via integrated yet independent temperature limit shutdown.
- It also includes a circuit breaker to protect from electrical overload.

Certification:

ISO 9001:2015 Certified Co. & CE mark product. CSA/CE/UL safety.

MODEL	RE-PGC-70
Temperature Range	4-60±0.5° C (Light On) 0-60±0.5° C (Light Off)
Temperature Control	PID temperature controller, PV actual value and SV setting value displayed at the same time
Safety Device	Overheat protector. 2-stage protection with safety protection alarm and indicator, compressor delay-start, high and low pressure of cold media protection device
Refrigerator	R134a
Work area	2.2 m²
Growth height	23 inch/ tier
Timer	24H Temperature and light control
Shelf	2 Tier
Exterior Dimension (W x D x H) **Interior Dimension (W x D x H)**	1995 x 850 x2000 mm 1802 x 733 x 1727 mm
Volume	2250 L
Power Voltage	220V/ 50HZ
Weight	340 kg
Light intensity	10-100% (Dimmable), 780 μmoles for each tier

Options

- Additive CO_2 control
- CO_2 removal system
- CO_2 Cylinder
- CO_2 Regulator
- Dry alarm contacts
- Door with viewing window
- Closed loop Dimmable lighting with PAR light sensor
- Open loop Dimmable lighting
- Dimmable Light each tier
- Convenience receptacles
- Additional light up to 1600 μmole/m^2/s
- Temperature ranges available up to 60°C
- Power points inside the Plant Growth Chamber
- Computer connection
- Voltage stabilizer
- Water purification System
- Additional warranty

Humidity Control (Optional)

Ultrasonic Humidifier - up to 95% (±3%)
Ultrasonic Humidifier and Dehumidifier 40-95% (±3%)
PAN Humidifier -up to 95% (±3%)
PAN Humidifier and Dehumidifier - 40-95% (±3%)

See other specification sheets or consult factory for additional information.

Contact us for any additional information.

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Advanced Controller System

Our advanced single-board electronic controller is designed for precise regulation of temperature, light, and relative humidity (RH). It features a high-resolution color touchscreen with an intuitive graphical interface for real-time display of set-points and actual conditions.

Controller Highlights

- Clear, highly visible alarm display system
- Real-time trend graphs for chamber parameters
- Data logging with convenient download capability

Programming Capabilities

The system supports continuous, diurnal, and multi-step programming modes, with storage for more than 10 user-defined programs.

Key Features

Programs configurable for single-day, multi-day, and seasonal (multi-week) cycles
Multi-step programming for temperature, humidity, and light
Real-time monitoring of:

- Set-points and process values
- Alarm status and settings
- Program mode, step progress, and remaining duration
- Controller time

✓ To ensure secure operation, the controller includes password-protected access levels for Users, Administrators, and Service Engineers.
✓ A comprehensive controller catalogue and user manual is provided with every system.
✓ On-board diagnostics and troubleshooting support, along with on-site demonstration during technical verification, is available upon request.

Safety & Experiment Protection

The system incorporates multi-layered safety mechanisms to ensure reliability and protection of experimental samples:

✓ Programmable high and low temperature safety limits
✓ Multi-level protection for controller and temperature regulation subsystems
✓ Adjustable high/low temperature alarms
✓ Integrated audible and visual alarm indicators

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