

PLANT GROWTH CHAMBER



APPLICATIONS

- **Plant Physiology & Genetic Research**
Study of plant response to environmental stress, mutation, and genetic modification.
- **Seed Germination & Propagation**
Provides stable conditions for early plant development and seed testing.
- **Photosynthesis & Metabolic Studies**
Helps analyse the effect of light, CO₂, and humidity on plant metabolic activities.
- **Biotechnology & Tissue Culture Labs**
Facilitates controlled growth for cell culture and micropropagation experiments.

KEY FEATURES

- **Precise Environmental Control:**
Maintains accurate regulation of temperature, humidity, and light cycles for consistent growth conditions.
- **Programmable Light Cycles:**
Simulates day/night cycles with fluorescent or LED lighting to mimic natural sunlight.
- **Uniform Air Circulation:**
Ensures homogeneous temperature and humidity distribution within the chamber.
- **Digital Control System:**
Microprocessor-based controllers with touch-screen interface for parameter settings and monitoring.
- **Adjustable Shelving:**
Multi-tier design with adjustable shelves for accommodating various plant heights and experimental setups.
- **Temperature Range:**
It operates from **+10°C to +50°C**
- **Humidity Control:**
Maintains **40% to 95% RH** with automatic humidification/dehumidification system.
- **Safety Features:**
Includes over-temperature protection, alarms for deviations, and door safety interlocks.
- **Energy Efficient Design:**
Uses high-efficiency cooling and lighting systems to reduce power consumption.



TECHNICAL MATRIX

Model No	PTE PGC-613 A	PTE-PGC-613 B	PTE-PGC 613 C	PTE-PGC 613 D
Interior (WxDxH)	400 x 500 x 845	560 x 570 x 870	650 x 570 x 900	650 x 700 x 900
Capacity	6 cu. ft	10 cu. ft	12 cu. ft	15 cu. ft
Approx Volume	170 ltrs	284 ltrs	340 ltrs	425 ltrs
No. of Shelves	2	2	3	3
Temperature Range	5°C above ambient to 60°C (Resolution 0.1°C)			
Temp. Controller	By Microprocessor Based PID Digital LED/LCD // PLC-HMI Display 7 inch Colour Screen			
Temp. Accuracy	±1°C			
Humidification	By steam injection process.			
Humidity Range	5% above ambient from 40% to 95% RH			
Humidity Accuracy	± 3% RH			
Air Circulation	By forced convection system			
Safety	By safety thermostat to prevent overheating			
Illumination	Exterior illumination with fluorescent tubes/lamps. Max 23000 LUX to 35000 LUX			
Insulation	By High density PUF insulation			
Operations	Nearly silent operation with ultra-low vibration			
Voltage Indicator	By Digital Volt Meter fitted on Panel			
Electric Supply	220/230V AC, 50/60Hz			

OPTIONAL ADD ONS

- CO₂ enrichment system for photosynthetic studies
- Programmable multi-segment controller
- Data acquisition software with graphical interface
- UV sterilization for microbial contamination control
- Backup power and alarm system for power failures