

PLANT GROWTH/ENVIRONMENTAL CHAMBER

THE PLT - 149 SERIES

APPLICATIONS

- "TANCO" brings the ultra-high-tech Triple walled Microprocessor controlled, solid-state Plant Growth/ Environmental Chamber used to study and contemplate the effects of different environmental parameters such as humidity, temperature and light in various applications tests involving micro-organisms, plants, in tissue culture applications, enzyme reaction studies, growth observation studies, and fermentation analysis.
- Also Used for forestry research works propagation of seeds, and incubation that requires a controlled environment (hot/cold cycles and light dark operations). It provides the necessary light, enclosed humid atmosphere and warmth for successful plant growth suitable for investigation in the effect of day light on flowering cycle, growth rate etc. & have a variety of usage in R&D laboratories and research studies.

SALIENT FEATURES & CONSTRUCTION

- It offers unsurpassed accuracy and reliability in the control of temperature, humidity and lighting. energy efficient lighting systems, culminating in plant growth chambers with a wider performance range, greater control of conditions and with unequalled reliability and durability.
- Programmable to enable true dawn/dusk simulation - reduces light shock
- Reduce heating effects on plant materials.
- Enable easy cleaning and servicing.
- Ensure constant light output by maintaining lamps at their maximum operating temperature.
- Robust construction outer chamber is made of Mild Steel duly pre treated & finished with powder coated paint for lasting finish.
- Inner chambers are made of STAINLESS STEEL SHEET (304 Grade).
- Outer front double walled door is insulated and is fitted with magnetic tape for air tight closing for no temperature loss, provided with lock and key arrangement.
- A full view inner plexi-glass door enables inspection and monitoring of inner chamber specimens without disturbing the process temperature.
- Door operated illumination lamp is fitted inside the chamber for easy visibility.
- Exterior illumination with the help of fluorescent lamps/tubes accounts for artificial daylight conditions.
- Energy efficient - high frequency fluorescent lighting uses up to 25% less energy than ordinary fluorescent lamps
- Light regulation allows user to select exactly the desired lighting level between approximately 10 to 100% output provides maximum lighting uniformity at low light levels.
- Fitted with durable coaxial blower for forced air circulation at triple walled back to maintain temperature uniformity in the chamber.
- Inner chamber has ribs for placing the shelves at convenient levels.
- Heating elements are placed in the path of moving air duly insulated from the body.
- Cooling is done by finned tube evaporator lie in the air circulation path by ISI marked Compressor/Condensing Units CFC free & R-134 a eco friendly refrigerant.
- High grade Glass Wool/ Puf Insulation between outer and inner chamber for minimal thermal losses.
- Fitted with Control Panel with advanced micro-processor based technology housed at the top fitted with Temperature controller cum Indicator Microprocessor based with LED display for Set Value (SV) & Process Value (PV) to select any desired temperature provided with Volt meter on the panel to read the incoming voltage. With illumination and humidity controls according to requirements.
- Safety Thermostate to prevent over heating.
- Caster wheels mounted for easy portability.
- Supplied with cord and plug.
- Operating Voltage: 220 Volts AC (50 Hz).



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TECHNICAL SPECIFICATIONS & ORDERING INFORMATION

Model No.	PGC- 1	PGC- 2	PGC- 3	PGC- 4	PGC- 5
Usable Space in MM	610 x 450 x 410	845 x 500 x 400	870 x 570 x 560	900 x 650 x 570	700 x 900 x 650
Capacity	4 cu. ft	6 cu. ft	10 cu. ft	12 cu. ft	15 cu. Ft
Approx Volume (Ltr)	113 ltrs	170 ltrs	284 ltrs	340 ltrs	425 ltrs.
No. of Shelves	2	2	2	3	3
Temperature Range	5°C above ambient to 60°C (Resolution 0.1°C)				
Temp. Controller	By Microprocessor Based PID Digital Temperature/Humidity Indicator cum Controller.				
Temp. Accuracy	±1°C				
Humidification	By steam injection process.				
Humidity Range	5% above ambient from 40% to 95% RH at cool temperatures.				
Humidity Accuracy	+ 5% RH				
Display:	LED Display for Set Value(SV) and Process Value (PV)				
Relay	Solid state electronic relay with protective heat sink.				
Air Circulation	By forced convection system				
Safety	By safety thermostat to prevent overheating				
Illumination	Exterior illumination with fluorescent tubes/lamps.				
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 FEATURES

Controlling of Temperature	By Profile Digital Microcontroller having 4 Programmers each of 16 steps (total 64 steps of ramp / soak profile)
PLC Based Control Systems	With Touch Screen Display with Direct Thermal / Dot Matrix Printer.
LCD Controller with Data Logger	(16 x 2) with optional RS-485 communication ports, cables, window based Software with inbuilt data recording. For (Temperature, humidity and Light levels) storage up to 2500 events.
Communication Port	Communication Port with interface and data cable to download data to your PC.
Lighting Control	Five Levels light control (0%, 25%, 50%, 75% and 100%)
Timer	With reverse 0 - 24 hours for regulating hours of light and darkness
Real Time Clock	Facility can be incorporated
Alarm Facility	Audio/Visual alarm for temperature deviation from set values.
High Voltage Protection	Through automatic voltage stabilizer (Optional)

