

PLANT GROWTH CHAMBER

Dual Chamber

IG-PGC Series



IGENE LABSERVE

Innovative • Interactive • Intuitive



ABOUT THE COMPANY

iGene Labserve Pvt. Ltd. is gaining recognition by offering resilient, innovative solutions in laboratory instrumentation across healthcare, genomics, drug discovery, biopharma, and food & beverage sectors. We strive to enhance lab efficacy and reduce challenges through advanced technologies and a diverse product portfolio tailored to our customers' needs.

PRODUCT OVERVIEW:

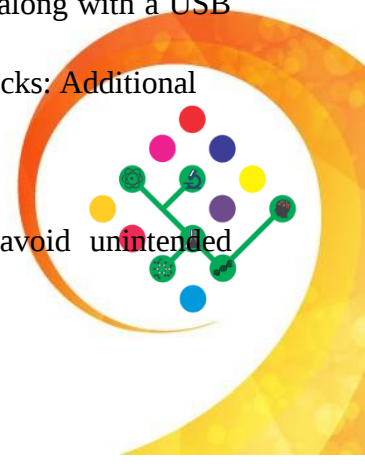
The Plant Growth Chamber is designed to provide a precisely controlled environment for plant cultivation, research, and experimentation. Equipped with advanced temperature, humidity, and lighting control, it ensures optimal growth conditions for various plant species.

Key Features

- ❖ **Triple-Sided Illumination:** High-quality growth lights are installed on three sides to provide optimal conditions for plant growth. The illumination is controlled by a cyclic timer for continuous 24/7 operation. The lights are easily replaceable by the user.
- ❖ **Durable Construction:** The inner chamber is constructed with thick-gauge stainless steel (304 grade), while the exterior is made from corrosion resistant, CRCA epoxy powder coated. A 70mm high density Pre-fabricated molecular panels with PUF insulation is filled between the inner and external walls. The chamber is fabricated using arc welding for enhanced durability.
- ❖ **Temperature and Humidity Control:** The temperature range is from 5°C to 60°C, and the humidity range is from 50% to 90%, controlled by a PID controller with PT100 temperature sensors and capacitive humidity sensors for precise regulation. Stainless steel tanks with high quality immersion heaters are used for humidity generation, with automatic water filling functionality.
- ❖ **Double Door System:** The chamber features a double door system, where the inner door is used for observation and is directly fixed to the chamber. The external door is insulated and fitted with easy to-use latches to ensure minimal variation in the internal environment when accessed.
- ❖ **Adjustable Shelves:** Stainless steel or chrome plated adjustable shelves allow for flexibility in organizing plant samples and other materials.

OPTIONAL FEATURES:

- ❖ **PLC-Based HMI Controller:** Advanced control with a colour touchscreen for monitoring and adjusting temperature and humidity. Data monitoring and storage are provided, along with a USB interface for easy data transfer.
- ❖ **30mm Port Hole:** For external wires and validation. UV Lamp, Plant Growth Racks: Additional features can be included as per customer requirements.
- ❖ **Door Open Alarm:** Alerts users when the chamber door is opened, ensuring the internal environment is maintained.
- ❖ **Password Protection for Controller:** Added security for the settings to avoid unintended alterations.
- ❖ **Caster Wheels:** Fitted with brakes for easy movement and placement.



CONTROLLER FEATURES

- **Temperature Control:** Equipped with a digital PID controller that displays both set value (SV) and process value (PV) for precise temperature regulation, ensuring stable and consistent conditions.
- **Humidity Control:** Includes a digital PID humidity controller with SV and PV displays, allowing accurate control and monitoring of humidity levels within the chamber to meet specific application requirements.
 - **2-Sided Lighting:** Lights installed on the left and right chamber walls, totaling 12 lights, providing ample illumination for visibility.
 - **3-Sided Lighting:** Enhanced lighting setup with lights on the left, right, and chamber gate, offering a total of 18 lights for optimal brightness and clarity within the chamber.
- **Programmable Lighting:** Lights can be programmed to match specific protocol needs, offering flexibility in intensity and timing to accommodate varying research or operational requirements.
- **24/7 Timing Cycle:** A comprehensive weekly digital timer with 99 cycles, each capable of containing a 30- segment program. This flexible timing cycle supports round-the-clock operations, ideal for complex and extended protocols.
- **Optional Features:**
 - **Defrosting:** Optional defrost function to maintain optimal operating conditions and prevent ice buildup in low-temperature applications.
 - **UV Sterilization:** Optional UV light feature to ensure sterilization within the chamber, reducing the risk of contamination and maintaining a clean working environment.
- **Optional Features:** Touch screen programmable controller.



SPECIFICATIONS

Temperature Range	Lights Off: 5°C to 60°C; Light ON: 10°C to 60°C
Temperature accuracy	±1°C
Temperature controller	Microprocessor PID controller Display of SV & PV
Humidity Range	50% to 90%
Humidity accuracy	±3% RH
Humidity controller	Microprocessor PID controller Display of SV & PV
Chamber Illumination	3 sides illumination with detachable Fluorescent lights(10000 LUX or 23000 LUX)
Chamber	Dual Chamber
Light timer	24x7 weekly digital timer
Shelves / trays	Stainless steel or chrome plated (Height adjustable)
Humidity system	SS boiler tank with immersion heater and automatic water replenishment by external tank
Safety	Audio / visual alarm for temperature deviation
Optional	• Exterior made of stainless steel 304 / 316 • White painted steel inner walls • Door open alarm • Plant growth racks • UV lamp • PLC with HMI interface • Data logger with USB interface • Password protection for controller • Caster wheels
Power supply	220 Volts/ 50 Hz

STANDARD SIZE

Model	Volume (Liters)	Inner Chamber size (mm)	Trays
IG-225PGC	225 Liters	550 x 450 x 1000	2
IG-350PGC	324 Liters	550 x 550 x 1200	2
IG-450PGC	450 Liters	600 x 600 x 1250	3
IG-600PGC	600 Liters	800 x 600 x 1250	3
IG-800PGC	850 Liters	800 x 600 x 1300	4
IG-1000PGC	1000 Liters	700 x 760 x 1835	4