iGENE LABSERVE®
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PLANT GROWTH CHAMBER

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ABOUT THE COMPANY

iGeneLabservePvt.Ltd.is gainingrecognition by offeringresilient, innovative solutionsinlaboratory 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 IG-GC Series Plant Growth Chamber is designed to create controlled environments with three-sided illumination, humidity, and temperature regulation, making it ideal for plant science, soil science, and agricultural research. The chamber provides precise control over temperature, humidity, and light to simulate various environmental conditions for biological samples, electronic components, and other related applications.

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.

KEY FEATURES

- **Double-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, powder-coated GI sheets. A 70mm high-density PUF insulation is filled between the inner and external walls. The chamber is fabricated using laser 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.

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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.
- **Chamber Lighting Options:**
  - **2-Sided Lighting:** Lights installed on the left and right chamber walls, total 12 LED type 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.

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TECHNICAL SPECIFICATIONS

SPECIFICATION	PLANT GROWTH CHAMBER
Temperature range	Lights Off: 5°C to 60°C; Light ON: 10°C to 60°C
Temperature controller	Digital PID controller with SV & PV values
Temperature accuracy	±1°C
Humidity range	50% to 90%
Humidity controller	Digital PID controller with SV & PV values
Humidity accuracy	±3%
Illumination	2 sides illumination with detachable LED lights (5500 LUX - 10000 LUX) Customizable illumination
Light timer	24x7 weekly digital timer
Shelves	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

ORDERING INFORMATION

Model	Dimension (mm)	Volume (Liter)
IG-150GC	560 x 580 x 660	170 L
IG-250GC	550 x 450 x 1000	250 L
IG-350GC	610 x 615 x 1016	350 L
IG-600GC	800 x 600 x 1250	600 L
IG-800GC	1120 x 600 x 1200	800 L
IG-1KGC	1074 x 765 x 1240	1000 L

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