



IGENE LABSERVE

Innovative • Interactive • Intuitive

PLANT GROWTH CHAMBER



OPTIONAL TOUCH SCREEN PLC BASED HMI CONTROL SYSTEM

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Plant Growth Chamber is a chamber having three side illumination, humidity & temperature. It has applications in plant science, soil science & agriculture research etc. The use of plant growth chamber is to create artificial environment using combination of temperature, humidity and light at different set points for biological samples, electronic components and other relevant applications.

DESCRIPTION

- ❖ **Construction:** We construct the inner chamber of machine with thick gauge of stainless steel 304 & exterior with powder coated GI sheet for corrosion resistance surface. High density PUF insulation of 70mm is filled between inner and external walls. Main chamber is fabricated with arc welding. We construct sizes as small as 100 litres to 1200 litres or customize as per user requirement. Caster wheels with brake are fitted for easy movement.
- ❖ **Doors:** We use double door mechanism with inner door for observation which is fixed directly to the inner chamber that give you access to view plants inside without any variation in internal atmosphere. The exterior door is insulated and fixed with easy to use latches.
- ❖ **Temperature & Humidity:** The temperature range is 5°C to 60°C and humidity range is 50% to 90%. These parameters are controlled through PID controller with excellent accuracy and uniformity through PT100 temperature and capacitive humidity sensors. High Quality heaters are used for temperature. For humidity, stainless steel tank with immersion heater is used with automatic water filling facility.
- ❖ **Illumination:** Illumination plays important role in effective plant growth condition; therefore, we use high quality growth lights at three sides of the chamber. These lights are controlled through cyclic timer for 24X7 a week. These lights can be easily changed or replaced at user level.
- ❖ **Optional:** We also equip our plant growth chambers with some advance features such as PLC based HMI controller. It features color touch screen having display and control of temperature and humidity with data monitoring and storage and also facility USB interface to transfer data into pen drive. 30mm port hole for external wires and validation are also available.

FEATURES & ADVANTAGES

- ❖ Accuracy of temperature, humidity & light
- ❖ Made according to plant height
- ❖ Digital control panel
- ❖ Digital light timer
- ❖ Height adjustable shelves
- ❖ Durable construction

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TECHNICAL SPECIFICATIONS

Parameters	Specifications
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%
Humidity range	50% to 90%
Humidity controller	Digital PID controller with SV & PV values
Humidity accuracy	±3%
Illumination	3 sides illumination with detachable LED lights (10000 LUX or 23000 LUX)
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





TECHNICAL SPECIFICATIONS

Model	Dimension (mm)	Volume (Liter)
IG-150GC	800 x 500 x 380	150 L
IG-250GC	550 x 450 x 1000	250 L
IG-350GC	550 x 550 x 1200	350 L
IG-450GC	800 x 600 x 1250	600 L
IG-800GC	1120 x 600 x 1200	800 L
IG-1KGC	1150 x 670 x 1300	1000 L

We also offer customize size and design with specific parameters as per requirement of user



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