

Plant Growth Reach-In Chamber

IG-PGC Series



IGENE LABSERVE

Innovative • Interactive • Intuitive

FEATURES & SPECIFICATIONS

Our Plant Growth Reach-in Chamber are designed to create extremely stable temperature and Plant Growth environments to Analyse the effects of pre-specified conditions on life saving drugs, biological samples, electronic components and industrial parts etc.

DESCRIPTION

- ❖ **Construction:** The overall Plant Growth Chamber is built on a rigid stainless steel frame. Outer body is coated (long lasting) steel and inner body highly resistant stainless steel, High density PUF insulation is filled between inner and external chambers. Each chamber is provided with suitable number of trays (at least 2 (up-to 4) easily removable and height adjustable shelves.
- ❖ **Temperature & Humidity:** The temperature range of our Plant Growth chambers is 8°C to 40°C with all lights ON, sensor catalogue will be enclosed and , $\pm 1^\circ\text{C}$ uniformity and $\pm 0.5^\circ\text{C}$ setting accuracy. And Data sheet will be enclosed while Humidity range will be 40%-80% RH, $\pm 10\%$ uniformity and $\pm 1\%$ setting accuracy.
- ❖ **Refrigeration System:** Self-contained air-cooled condensing unit hot gas bypass system, extended life and close temperature control; valves for quiet and long -life operation; heating and cooling system adapted to temperature control range; refrigeration system has on top only of the machine.
- ❖ **Heating:** SS tubular air heaters are used to generate warm temperature inside the chamber.
- ❖ **Humidity system:** Stainless steel tank and ISI mark immersion heater features automatic water filling and low water safety device.
- ❖ **Control System:** Our Plant Growth Chamber is equipped with self-programmed PID controllers, which feature set value (SV) and process value (PV). In addition, we also use PLC based HMI controller which is advance system and features color touch screen, various error display, data logging and data transfer to pen drive or direct printout. Password protection facility available with audio-visual alarm for high and low value display setting.
- ❖ **Illumination:** Interior illumination is done by LED light which can be supported by cyclic timer. It controls the ON/OFF timing of light for a week.
- ❖ **Light and photoperiod control:** dimmable light module will be available with each self. Downward lighting, configured for extreme uniform light throughout the shelves with high degree of scattering; independent control of different light intensities in each canopy (i.e., in each tier) through the controller. Spectrum required: broad spectrum white light (Far-red light optional) external switch will be provided
- ❖ **Safety Features:** Each Plant Growth chamber is equipped with many safety features ensuring you working with a trustable machine. Each chamber is fitted with over temperature protection, over current protection and low and high temperature limits and time delay for compressor switch on etc.
- ❖ **Data logging:** We also provide data logging feature with our Plant Growth Chamber; PC interface with RS485 communication and also 21 CFR part 11 software as an option



SPECIFICATIONS

Model no.:	IG-810PGC
Temperature Range	8 to 40°C with all lights ON sensor
Capacity and Dimension	<ul style="list-style-type: none"> • 810 liters • Dimension (120cmHx90cmx75cmD)
Total growing area & Height	2 m ² (including area of all tier /shelf together), with 0.5 m ² growing area per shelf and Growth Height: 25-30 cm per shelf
Temperature accuracy & Uniformity	±0.5°C and Uniformity ± 1°C
Total PAR light intensity required (PPFD)	Light canopies will be provided with Broad spectrum white light (≥3500k And ≤6000k) ≥ 200-450 μmol m ⁻² s ⁻¹ . Compatible to include Far-Red, Blue, Red- light spectra.
Temperature controller	<ul style="list-style-type: none"> • Microprocessor based programmable logic with LCD display; • Battery back-up to controller function for ≥30 minutes during power failure.
Humidity Range	40% to 80% RH
Humidity accuracy	Accuracy ±1%
Humidity uniformity	RH ±10% uniformity
Humidity controller	Microprocessor PID controller
Chamber Illumination	High-quality LED modules specific
Construction	Double walled
Insulation	Polyurethane foam (PUF); CFC- free
Outer material	Coated (long lasting) steel
Type and Quality of light source	High-quality LED modules specific for plant/ Horticulture/agriculture grown research.
Interior material	Highly resistant stainless steel
Door	<ul style="list-style-type: none"> • Double door, inner door made up of acrylic sheet and outer door made up of mild steel, • Scratch and alcohol resistance, condensation free. • Fitted with magnetic gasket providing tight seal door frame.
Inner door	Glass door fitted in steel frame
Shelves	2 (up to 4), easily removable and height adjustable shelves
Air Circulation	Uniform, horizontal ~0,2 m/s across the shelves, Adjustable by set point % at the controller interface/Automatic
Refrigeration	CFC Free compressor
Safety features	Alarm and protection for over temperature; over pressure; over Current; delay start protection, high and low valve.

Optional

Co2 level control and monitoring(Additive and removal, Ranges up to 300-1200 ppm)
Stainless steel exterior (GMP)
PLC based HMI controller w/ USB interface
RS 485 interface
21 CFR part 11 software
UV light
IQ, OQ and PQ documents



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