



PLANT GROWTH CHAMBER

AN ISO 9001 : 2008 CERTIFIED CO. & CE MARK PRODUCT

Model No : SRL / PGC-11



Controller :

PLC based PID controller with 5.6" LCD is capable of controlling temperature, humidity, CO₂ and lighting. Programs may be configured to run in real time or countdown (circadian) mode. Ramping and non-ramping program methods are available for each programming mode. Multiple programs are linked to create complex environmental profiles. additional information regarding the control system 25 steps PLC with HMI based temp. & RH controller, with 50 real time use entered programs in with 99 cycles in each programs. provides precise temp.,RH, Humidity, illumination & CO₂ maintaining uniform & accurate growth environment. Timer, alarm, auto tuning & auto start, stop function. with printer interface (centronic port). PC interface with RS232CPS / RS-485 interface for multiple networking of controller. Data loggers up profile controller for Ramp / soak for cyclic application chamber illumination of U.V. Lamps. Low water level circuit etc. Also available stand by humidity & refrigeration system (Manual & auto change over) as optional. Auto diagnostic feature. Ambient temp. monitoring. Autorestart in case of power failure. 24 hour chamber monitoring 4 level password protection for controller operation.

Applications :

This chamber product is frequently used for research application such as lighting for plant pathology research and seedling germination and development.

Lighting System :

Three tiers of lighted shelving is lit by LED fluorescent white lights & tungsten incandescent lamps properly spaced for uniform light intensity. Intensity is adjustable from 600 to 2000 $\mu\text{moles}/\text{m}^2/\text{s}$ at 150mm distance from the lamps. Programming and control of the lighting is done controller between temperature +10°C to +40°C. Lamps with 3 on/off light events. Par sensor for light measurements.

TECHNICAL SPECIFICATIONS

Model SRL-PGC-11	Internal Dimension (W X D X H)(cms)	Capacity Ltrs
PGC-A	45 x 45 x 50	100
PGC-B	60 x 60 x 55	200
PGC-C	55 x 55 x 100	300
PGC-D	60 x 60 x 110	400
PGC-E	60 x 60 x 140	500
PGC-F	70 x 60 x 145	600
PGC-G	70 x 70 x 145	700
PGC-H	75 x 75 x 145	800
PGC-I	80 x 75 x 150	900
PGC-J	100 x 100 x 100	1000
PGC-K	85 x 80 x 160	1100
PGC-L	90 x 83 x 160	1200

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Cabinet Construction & Insulation :

Interior Made of 22 guage plated steel exterior of 18 guage plated steel construction 51mm thick puff panels with puff in place dencity of minimum 1 kg per cubic foot or its equivalent. Insulation with expanded polystyrene or any equivalent. material having R factor of minimum 34 shall maintain its dimensional stability in an operating temperature range of +4°C to +50°C. Insulation panel or its equivalent shall have cam-type fasteners with vinyl gasket or its equivalent. Environment friendly foam (Global warming potential of 0.0 & ozone depletion potential of 0.0)

Temperature Range :

+5°C to +60°C with lights ON
0°C to +60°C with lights OFF

Temperature Safety Limit Controls:

(Experiment Protection) Adjustable high and low temp. controls, audible alarms, and visual in directors are provided. the controls shut down all the power to the chamber, and activates alarms. when the temperature returns to the normal range the system will auto-matically reset.

Doors :

Two reach in doors for full access. Doors shall have magnetic snap-in perimeter gasket or its equivalent, self closing cam lift gravity hinges or its equivalent a posi-seal door closure or its equivalent. Door shall have key lockable latch handle with an inside safety release. Magnetic gasket is provided for a tight seal.

Humidity control :

40% to 95% RH, $\pm 3\%$, Humidity resolution: $\pm 0.1\%$ Through ultrasonic humidification with high/Low alarm. Extended humidity ranges available. It is PAN type humidifier with RH sensor of rotronic hydroclip of SWISS make.

Shelving :

4 Epoxy coated steel shells painted in white shelves will be adjustable in 0.5 inch increment.

Safety Features :

Built-in temp. deviation, audio/visual alarms. Safety thermostat for over shooting of temp. safety circuit to cut of the whole systems in case of malfunction. (only applicable to microprocessor based models). HRS fuses for compressor heaters & mains.

Co2 Application : [Optional]

0-2000 ppm complete with cylinders & regulators operated directly from PLC with NDIR sensors.

Airflow/Circulation :

Uniform forced air circulate across the shelf via air diffusers on the top wall.

Refrigeration :

Air cooled condensing unit which is self contained with hot gas bypass system for continues compressor operation. Temperature control in accurate and it extends its life by alternately cycling refrigerant and hot gas to the coil. Long neck solenoid valves for quiet and long life operation.



Due to continuous development & improvements in design, we reserve the right to change the specification without notice.