WALK IN PLANT GROWTH CHAMBER

AN ISO 9001 : 2015 CERTIFIED CO. & CE MARK PRODUCT

Model No : SRL-WIPGC-12

Controller :

PLC based PID controller with5.6" LCD is capable of controlling temperature, humidity 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. Inbuilt battery.

Applications :

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

Lighting System :

lighted shelve is lit by cool fluorescent light & tungsten incandescent light properly spaced for uniform light intensity. Intensity is adjustable upto >1100 µmoles/m^2/s at 150mm distance from the lamps. Programming and control of the lighting is done controller. Barrier to prevent lamp heat to not influence the temperature of subsequent shelf.

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 values for quiet and long life operation.

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Cabinet Construction & Insulation :

Interior Made of 0.5mm guage plated steel exterior of 0.5mm 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 +5^{0}C to +60^{0}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 :

10^{0}C to 60^{0}C with lights ON

5^{0}C to 60^{0}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 :

50% to 90% RH, $\pm$ 3% Through ultrasonic humidification with high/Low alarm. Extended humidity ranges available. It is PAN type humidifier with RH sensor of rotronic hygroclip of SWISS make.

Shelving :

Adjustable shelves with white coating growth height of >135cm.

Safety Device :

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.

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