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Технические характеристики на камеры для роста растений, аксессуары КОМПАНИИ JSR

Growth CHAMBER

CLIMATIC CONTROL Phytotron

Control Performance

- High precision Digital PID Microprocessor controller and cooling system controls temperature from +0°C to 60 °C
- Humidifier controls humidity from 30% to 85% RH with excellent temperature control
- Built-in Light sensor in chamber measure and display Light intensity in LUX
Combination of maximum 8 Level Light control can create sixteen Light intensity gradation.
- Optional CO₂ control with precise NDIR-Diffusion Sensor controls CO₂ concentration from ambient approx. 700 ppm to 5000 ppm
Concentration can be expressed in % as well
- Program mode capable to create various climatic conditions of temperature, humidity, Lighting and CO₂ conc. with time duration up to 11 Segments 999 cycles or unlimited repeating operation with easy-to-use 3-Line back Light LCD display and alpha numeric key pad

	Temp. +0 °C - 60 °C
	Humidity 30 - 95% RH
	Lighting 0 - 40,000 Lux
	CO ₂ Conc. amb.-5000 ppm (%)
	Program Controller
	Photoperiodic Control (!)



3-D Illumination Plant Growth Chamber

JSPG-Series

JSPG-1500C 3-Side Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, Lighting and CO₂ concentration.

Ideal to growing plant, plant tissue culture or any other Laboratory experiments needs controller climatic simulation.

1512 L Large capacity and tall height of the chamber suitable to growing Larger plants up to 1.2 m.

Combination of top and two side Light bank with HQI and fluorescent Lamps provide Light intensity up to 50,000 LUX.



Top Illumination

JSGC-Series

JSGC-Series Top Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, Lighting and CO₂ concentration

Ideal to growing plant, plant tissue culture or any other Laboratory experiments needs controller climatic simulation.

Various choice of capacity from 432L - 1512 L suitable to growing Larger plants up to 1.2 m.

Light bank on the top with HQI and fluorescent Lamps provide Light intensity up to 40,000 LUX.

3-Side Illumination

JSPC-Series

JSPC-Series 3-Side Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, Lighting and CO₂ concentration

Ideal to growing plant, plant tissue culture or any other Laboratory experiments need controlled climatic simulation.

Various choice of capacity from 200L - 964 L for tissue culture and plants growing.

Light bank on the 3-side with fluorescent Lamps provides Light intensity up to 30,000 LUX.



Growth CHAMBER

CLIMATIC CONTROL Phytotron

Control ler

JSC-4CP Programmable ControHer



- High precision Digital PID Microprocessor controls temperature, humidity, lighting and CO₂ concentration in one integrated unit with easy to use 4-line back-light LCD display interface
- Constant temperature, humidity, lighting and CO₂ concentration operation with automatic OFF timer
- Programmable operation capability of various climatic conditions of temperature, humidity, lighting and CO₂ concentration with time duration up to 11 Segments 999 cycles or unlimited repeating operation
- Calibration and auto-tuning function
- Class A Pt-100 Q temperature sensor
- Precision electronic humidity sensor
- Built-in LUX Meter in chamber to measure light intensity
- The most accurate NDIR-Diffusion (Infra Red) CO₂ Sensor
- Automatic defrost cycle

Performance & Convenience

▶ Light Bank System

- Light Bank System with HQI and Fluorescent Lamps
- Combination of 8-Level Lamp Control creates over 16 light intensity gradation
- Lamp-on-Delay System turn on lamp one by one which provides gradual increase of light intensity



▶ Chamber

- Stainless Steel 304 chamber
- Removable and height adjustable shelf
- Internal LUX meter sensor
- Built-in humidifier and automatic water supply
- Low water Level sensor and alarm



Maintenance

- Easy to access Light Bank System for convenient maintenance
- Easy to maintain refrigeration system



▶ Infra-Red CO₂ Sensor

- High precision Dual wavelength NDIR Diffusion sensor to measure and control CO₂ concentration



Performance

- , Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- , Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- , Temperature control within $\pm 0.1^{\circ}\text{C}$ resolution
- , Humidity control within $\pm 1.0\%$ RH resolution
- , Lighting control from 0- 50,000 Lux by 8-Step Light intensity for photoperiodic Day-Night simulation
- , Lamp-on-Delay System by turn on Lamp one by one which provides gradual increase of light to eliminate sudden light intensity change
- , ~~CO2~~ concentration control within ± 1 ppm (1%) resolution

Convenience

- , Outer door with self adhesive magnetic packing
- , Inner glass door with high density silicone packing and air-tight door lock (depends model)
- , Removable and height adjustable shelf by 25mm spacing
- , Easy to access Light Bank System for convenient maintenance ,
- Corrosion resistant Stainless Steel 304 (ASTM304) chamber , Auto-defrost system, user settable interval and time
- , Built-in casters for easy transport

Safety

- , OVER TEMP. CUT-OFF
Analog system cut-off heater 10% above set temp.
- , MAX TEMP CUT-OFF heater and AUDIO VISUALALARM when if $+1^{\circ}\text{C}$ above maximum limit
- , SENSOR DISCONNECTION ALARM
- , LOW WATER LEVEL ALARM
- , DRY BURN PROTECTION OF HUMIDIFIER
- , OVER CURRENT CUT-OFF: Electrical Leakage Breaker



Growth CHAMBER

JSPG-1500C 3-D ILLUMINATION High Light Intensity



Temp. +0 °C - 60 °C



Humidity 30 - 88% RH



Lighting 0 - 50,000 Lux



CO2 Conc. amb.-5000 ppm (%)



Program Controller



Timer On ! Off



Photoperiodic Control



Specifications

Heating	Forced Air Convection
Cooling	CFC Free Air Cooled Compressor
Humidifier	Water Boiling Humidifier
Temp. Range	+0 °C - 60 °C (Light Off) +10 °C - 60 °C (Light On)
Accuracy	± 0.3 °C at 20.0°C 60% RH
Uniformity	± 1.0 °C at 20.0°C 60% RH
Temp. Sensor	ClassAPt-100 Q Sensor
Humidity Range	30 - 98% RH (Sensor Range) 30 - 88% RH (Control Range)
Accuracy	± 3.0 %RH at 20.0°C, 60% RH
Humidity Sensor	Electronic Sensor
Illumination	0 - 50,000 Lux by 8-Step Combination
Light Sensor	Lux Meter 1 Lux resolution
CO2 Range	ambient to 5,000 ppm (- 20 %)
CO2 Sensor	Dual Wavelength NDIR Diffusion
Controller	Programmable PID Control 11 Segment 999 Cycle Repeat
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber: Stainless Steel 304 Double Layer Vacuum Glass Wall on Light Bank Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase Direct connect to 60 Amp ELB Mains

Feature

- 3-D illumination from top and two side light bank with HQI and fluorescent lamps provide light intensity up to 50,000 LUX
- Double layered vacuum sealed tempered safety glass wall on light bank
- Observation window with layered vacuum sealed tempered safety glass on front door
- Front door with silicone packing and compression door lock

Performance

- Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- Temperature control within $\pm 0.1^\circ\text{C}$ resolution
- Humidity control within $\pm 1.0\%$ RH resolution
- Lighting control from 0 - 50,000 Lux by 8-Step Light intensity for photoperiodic Day-Night simulation
- Lamp-on-Delay System provides gradual increase of Light to eliminate sudden Light intensity change
- CO₂ concentration control within $\pm 1\text{ppm}$ resolution

Options

Art No.	Descriptions
OHC-100	CO ₂ Control - 5,000 ppm with NDIR CO ₂ Sensor supplied without CO ₂ gas cylinder
OHC-101	2 Stage CO ₂ Gas Regulator
OHC-102	Flow Meter
OHC-103	Metering Valve

Accessories

Art No.	Descriptions
PHS-C11	PVC Coated Wire Shelf W680 x D845 mm

Ordering Information

		JSPG-1 SOOC
Chamber Volume (Capacity)		1512L
Dimensions	Inner	1400 x 900 x 1200
W x D x H mm	Outer	1880 x 1390 x 2065
Temperature	Range	Light Off: +0C - 60C Light On: +1 CC - 60C w/o Humidity Control
	Accuracy	$\pm 0.3^\circ\text{C}$ at 20.0C 60% RH (Light Off)
	Uniformity	$\pm 1.0^\circ\text{C}$ at 20.0C 60% RH (Light Off)
Humidity	Range	30 - 98% RH (Sensor Range) 30 - 88% RH (Control Range)
	Accuracy	$\pm 3.0\%$ RH at 20.0C 60% RH
	Uniformity	$\pm 6.0\%$ RH at 20.0C 60% RH
Illumination	Range / Steps	0- 50,000 Lux by 8-Step Combination
	Lamp Configuration	Top : 6 x 150W HQI Side: 4 x 70W HQI, 8 x 55W FFL
CO ₂ Conc.	Range	ambient - 5,000 ppm (ambient - 20%)
	Accuracy	$\pm 50\text{ppm}$
Controller		Programmable PID Control 11 Segment 999 Cycle Repeat
Sensors		Class A Pt-100 Q Sensor / Electronic Humidity Sensor / Lux Meter / NDIR Diffusion CO ₂ Sensor
No. of Shelves / Maximum No.		6 / 20
Heater Rating		10.0 kW
Refrigeration System		CFC Free Air Cooled Compressor
Power Rating		220 VAC 50/60Hz 1P55 Amp
Fluorination		Direct connect to 60 Amp ELB Mains

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