Plant Growth Chamber

The various models of plant growth chambers from LABEC can be adjusted

for temperature, humidity, and light intensity to suit the growth needs of a wide

range of plants, including rice, corn, soybeans, rapeseed, tobacco, tomatoes,

pumpkins, watermelons, strawberries, Arabidopsis, and more. Regarding

light sources, custom spectra can be designed to meet the specific needs of

special plants. Additionally, high, and low temperature and humidity stress

experiments can be conducted.

Product Advantages

● Customizable Supplemental Lighting Solutions

Spectral Ratio: Proprietary continuous visible spectrum developed to meet the needs of most plants at different growth stages, making one unit versatile for multiple uses;

Light Intensity: Infinitely adjustable from 0-100%, allowing for different light intensities at different times of the day to simulate gradual sunlight changes;
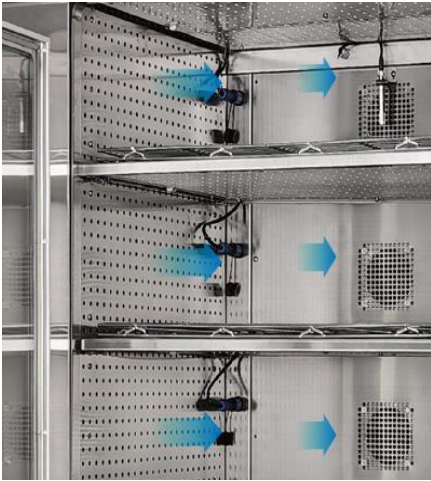
Rich Spectrum: Single spectrum at 450nm, 660nm, 735nm, three-spectrum, four-spectrum, and eighteen-spectrum options;

Eye Protection: Uses composite LEDs to avoid separate red, green, and blue spectra, reducing harm to human eyes.

● Heat Recovery Patent Technology

Adjust light intensity according to the needs of different plants and growth stages to save energy. Proprietary environmental control system and heat recovery technology patents save more than 50% energy compared to similar products.

Plant Growth Chamber

● **Horizontal Circulation for Even Airflow**

LABEC's patented circulation design uses horizontal airflow from both sides with return air in the middle, ensuring more uniform temperature, humidity, and gas concentration across all levels of the chamber.

● **Smart Control**

Environmental Simulation: Any time period can be set for temperature, humidity, light intensity, and CO2 concentration;

Precise Control: PID system adjustment allows temperature and humidity to reach set values quickly;

User Programming: Various protection measures and energy-saving measures can be set, as well as independent operating units;

Remote APP: Standard mobile app allows for convenient remote control and management.

● **Aesthetic and Durable**

Piano paint exterior, all stainless-steel internal structure, and polyurethane foam one-piece molding ensure good insulation and sturdy structure;

Meticulous workmanship with minimal dimensional error and exquisite craftsmanship; built-in insulated door, aesthetic and elegant;

Reliable quality, capable of continuous operation for ten years after one start-up, with a one-year warranty and lifetime periodic on-site maintenance.

Technical Specification

BPC 300H	
External dimensions W*D*H[mm]	770*720*1730mm
Internal dimensions W*D*H[mm]	623*498*1000mm
Volume[L]	310L
Default lighting layers	4
Shelf height[cm]	23cm
Cultivation area [m^2]	1.2m^2
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10 ~ 45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30 ~ 90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300µmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、Red (660nm±5nm)、Far Red (735nm±5nm)、Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	1.6KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ~ 2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Technical Specification

BPC 500H	
External dimensions W*D*H[mm]	900*800*1940mm
Internal dimensions W*D*H[mm]	735*577*1182mm
Volume[L]	501L
Default lighting layers	4
Shelf height[cm]	28cm
Cultivation area [m²]	1.7m²
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10～45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30～90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、Red (660nm±5nm)、Far Red (735nm±5nm)、Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	1.9KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ～2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Product Picture

Technical Specification

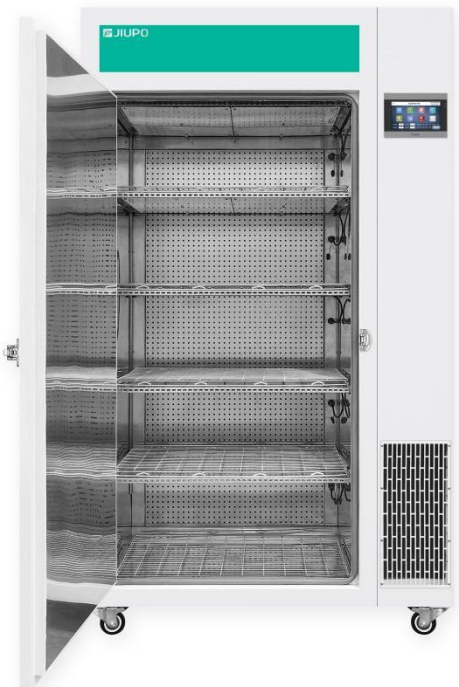| BPC 600H	
External dimensions W*D*H[mm]	900*800*1940mm
Internal dimensions W*D*H[mm]	735*557*1474mm
Volume[L]	603L
Default lighting layers	4
Shelf height[cm]	35cm
Cultivation area [m²]	2.1m²
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10～45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30～90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、Red (660nm±5nm)、Far Red (735nm±5nm)、Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	1.8KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ～2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Product Picture

Plant Growth Chamber BPC800H

Technical Specification

BPC 800H	
External dimensions W*D*H[mm]	1164*800*1940mm
Internal dimensions W*D*H[mm]	776*656*1550mm
Volume[L]	790L
Default lighting layers	4
Shelf height[cm]	37cm
Cultivation area [m^2]	0.5*6m^2
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10 ~ 45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30 ~ 90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、 Red (660nm±5nm)、 Far Red (735nm±5nm)、 Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、 Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、 Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	2.3KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ~ 2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Product Picture

Plant Growth Chamber BPC1000H

Technical Specification

BPC 1000H	
External dimensions W*D*H[mm]	1920*753*2010mm
Internal dimensions W*D*H[mm]	1234*511*1800mm
Volume[L]	1135L
Default lighting layers	5
Shelf height[cm]	34cm
Cultivation area [m²]	3.8m²
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10 ~ 45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30 ~ 90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、Red (660nm±5nm)、Far Red (735nm±5nm)、Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	2.6KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ~ 2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Product Picture

Plant Growth Chamber BPC1600H

Technical Specification

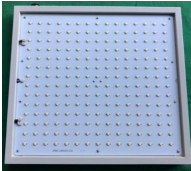| BPC 1600H	
External dimensions W*D*H[mm]	2254*823*2010mm
Internal dimensions W*D*H[mm]	1568*581*1800mm
Volume[L]	1640L
Default lighting layers	5
Shelf height[cm]	34cm
Cultivation area [m^2]	5.5m^2
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10 ~ 45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30 ~ 90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、Red (660nm±5nm)、Far Red (735nm±5nm)、Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	4.1KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ~ 2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Plant Growth Chamber BPC2000H

Technical Specification
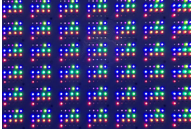
BPC 2000H	
External dimensions W*D*H[mm]	2400*1000*2010mm
Internal dimensions W*D*H[mm]	1650*720*1800mm
Volume[L]	2138L
Default lighting layers	5
Shelf height[cm]	34cm
Cultivation area [m^2]	7.1m^2
Temperature	Temperature range: 3 ~ 45℃, Low temperature option: -10 ~ 45℃, Temperature accuracy:0.1℃, Temperature fluctuation:≤0.5℃, Temperature uniformity:±2℃
Humidity	Humidity range: 50 ~ 90%RH, Low humidity option: 30 ~ 90%RH, Humidity accuracy:1%RH, Humidity fluctuation:≤3%RH, Humidity uniformity:±5%RH
Default lighting	LED Cool White(380~760nm) & 300μmol/m²·s (@10cm from the lights)
Upgrade lighting	Blue (450nm±5nm)、 Red (660nm±5nm)、 Far Red (735nm±5nm)、 Three colors RBIR (450nm±5nm, 660nm±5nm, 735nm±5nm)、 Four colors RBIRW (660nm±5nm, 450nm±5nm, 735nm±5nm,380~760nm continuous spectrum)、 Eighteen colors\UVA\UBC\UVC
Peak Power (220V)	5.4KW
Working voltage	220VAC / 50HZ
Working environment temperature	5 ~ 35℃
Other options	CO2 Control module: Ambient concentration ~ 2000ppm/5000ppm, Accuracy: 70ppm, Observation window

Product Picture

Accessories (LED Lights Panel) for Reach-In Plant Growth Chamber			
Item No.	**Item Name**	**Picture**	**Specifications**
WH370	White Color LED Lights Panel with Full-Specturm		Spectrum: 400nm to 700nm Color Emitting: White Colors Rate: R:G:B=6:2:2 Intensity: 1600μmol/m²/s Size(L×W×H): 590×510×55mm
WG150	White Color LED Lights Panel with Full-Specturm		Spectrum: 400nm to 700nm Color Emitting: White Colors Rate: R:G:B=6:2:2 Intensity: 1000μmol/m²/s Size(L×W×H): 530×350×8mm
WL50	White Color LED Lights Panel with Full-Specturm		Spectrum: 400nm to 700nm Color Emitting: White Colors Rate: R:G:B=6:2:2 Intensity: 300/500μmol/m²/s Size(L×W×H): 530×350×8mm
BL70	Blue Color LED Lights Panel		Spectrum: 450nm ± 5nm Color Emitting: Blue Intensity: 400μmol/m²/s Size(L×W×H): 530×350×8mm
RL60	Red Color LED Lights Panel		Spectrum: 660nm ± 5mm Color Emitting: Red Intensity: 300μmol/m²/s Size(L×W×H): 530×350×8mm
IRL40	Far Red Color LED Lights Panel		Spectrum: 735nm ± 5nm Color Emitting: Far Red Intensity: 110PFD Size(L×W×H): 530×350×8mm
RBIRG110	Three Colors (Red/Blue/Far Red) LED Lights Pan		Spectrum: 660nm, 450nm, 735nm (± 5nm) Color Emitting: Red, Blue, Far Red Intensity: 350μmol/m²/s Size(L×W×H): 530×350×8mm
RGBG110	Three Colors (Red/Green/Blue) LED Lights Panel		Spectrum: 660nm, 525nm 450nm (± 5mm) Color Emitting: Red, Green, Blue Intensity: 600μmol/m²/s Size(L×W×H): 530×350×8mm
RBIRWG110	Four Colors (Red/Blue/Far Red/White) LED Lights Panel		Spectrum: 660nm, 450nm, 735nm (± 5mm), 400nm to 700nm Color Emitting: Red, Blue, Far Red, White Intensity: 750/1600μmol/m²/s Size(L×W×H): 530×350×8mm
PGLP18	Eighteen Colors LED Lights Panel		Spectrum: (365-375)nm, (385-395)nm, (395-405)nm, (410-420)nm, (435-445)nm, (450-455)nm, (460-465)nm, (500-510)nm, (520-530)nm, (550-560)nm, (585-595)nm, (600-610)nm, (620-630)nm, (660-665)nm, (735-745)nm, (810-820)nm, (840-850)nm, (940-950)nm Total Intensity: 2000μmol/m²/s Size(L×W×H): 530×350×55mm