



Plant Growth Chamber FM-PGC-A100

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1. Safety Measures

Icon Indication	Significance	Icon Indication	Significance
	Air Blower		Humidification
	Alarm		Refrigeration
	Door		Cream Of Change
	Dehumidification		Add Water
	Heating		Water Failure

Note: After the water failure, click the water failure icon to add water again

2. Introduction

Plant Growth Chamber FM-PGC-A100 is an internal humidification system, providing uniform humidity range from 40% to 95% RH, suitable for efficient plant growth. Designed with true color touchscreen display for viewing and controlling the technical parameters to ensure flexible operation. Integrated with superior quality compressor and sensor to enhance accuracy of the chamber.

3. Features

- ✓ Cycle mode: Forced convection, rear micropore, and supply air in front of plate
- ✓ Internal humidification system for uniform distribution of humidity
- ✓ Full spectrum adjustable multistage for the convenience of the user
- ✓ LUX and RH controller enhances efficiency of the equipment
- ✓ Full spectrum LED top light source design ensures great illumination
- ✓ Low thermal radiation from light source enhances reliability
- ✓ Removable light partition and adjustable light space for ease of handling
- ✓ Automatic water intake with water shortage alarm for smooth operation of device
- ✓ Backflow valve and expansion valve controls evaporator temperature with great precision
- ✓ Low maintenance tool due to extended service life of compressor
- ✓ 7-inch true color touchscreen display for visualization and managing technical parameters

4. Specifications

Model No.	FM-PGC-A100
Chamber Volume	250 L
Shelves	4 pcs
Temperature Resolution Ratio	0.1 °C
Temperature Range	Without Lighting: 0 to 65°C With lighting: 10 to 65°C
Temperature Uniformity	± 1.0 °C
Humidity Range	40% to 95% RH
Humidity Motion	± 5% RH
Lighting Intensity	Full Spectrum 0 to 30000 LX, many degrees adjustable
Light barrier	Standard 4-layer full spectrum LED lamp board
Power Supply	AC 220 V, 50/60 Hz
Sensor	PT 100
Interior Dimension (W × D × H)	600 × 500 × 840 mm
Exterior Dimension (W × D × H)	794 × 726 × 1600 mm
Packaging dimension	893 × 863 × 1850 mm
Net Weight	225 Kg
Gross weight	255 Kg

5. Applications

Plant Growth Chamber FM-PGC-A100 is widely used for growth of plant cell tissues and seedling across sectors of biotechnology, agriculture, cell biology, academics, research laboratories, etc.

6. Operations

6.1 Home Page Display



Figure-1

6.2 Operation and Use Method

Run	Click Run to start working. Click Stop to stop the work output
Login	Click the icon in the top left corner to log in

If there is no operation for a long time, the black screen can be changed in the following two ways

1. Users can select 'Menu =', 'Maintainer =', 'password 188', enter the 'backlight' parameter, and modify it.
2. When power is turned off and restarted, click the screen to enter the system configuration page when the progress bar appears at the lower end of the screen, and click 'System parameter Settings =' Backlight = 'to automatically turn off the backlight (uncheck)'.
 When restarting, click the screen to enter the system configuration page when the progress bar appears on the screen, and click 'system parameter Settings =' Beep = 'Silence (uncheck)'. You can also set the duration of the song (the longer the time is set, the longer the song will be).

6.3 Internal parameter table

User setting 1

Settings	Function Description	Setting range
Number of segments	Set the number of running segments	(1~30)1
period	Set the run period	(0~999)0

- The period is 0, and the number of segments is N. The time, temperature, humidity, etc. of each segment are set (the segment is not executed when the time is 0).
- After the operation starts, the controller runs continuously from the first segment to the NTH segment. The mode cannot be modified at runtime.

User setting 2

Settings	Function Description	Setting range
Set a time	Set run time	
Set the temperature	Set operating temperature	(0~100)30.0°C
Set humidity	Set operating humidity	(0~100)20.0%rh

User Settings 3

Settings	Function Description
History	View and export the history of the device status
Operation log	View and export machine operation logs

- You can use a U disk to select the export format (CSV/PDF) and export it to a U disk for viewing with electronic devices.
- The export content is the current query content, and you can modify the export folder or file name.
- If the export format is PDF, the folder is invalid, and the prefix H/L/A is forced to be added before the file name

Note: If the export fails to insert the U disk

Method 1: Check the format of U disk, U disk format must be FAT32 format

Method 2: When the progress bar appears after restart, click "System Configuration interface" = "System parameter setting =" USB= "and select" main port mode "and click X to exit the menu.

And wait for a while or reinsert the U disk to identify it again

Alarm log

Users can view the historical alarm records and can choose a time to delete, can choose the date for U disk export

Curve

Settings	x-axis minimum
	X-axis or Y-axis overall magnification
	Move the y-coordinate up one page
	The y-coordinate is shifted up by one principal moment

Settings	x-axis maximum
	The X-axis or Y-axis is reduced by an overall factor
	The y-coordinate is moved down one page
	Move the y-coordinate down one major scale

6.4 Menu: Control Panel = "Menu =" User password (default password 8888)

Alarm Setting

Settings	Function Description	Setting range
Over temperature alarm	Measure temperature > set temperature + over-temperature protection temperature, prompt over-temperature alarm, and	(0,50.0)5.0°C
Low-temperature alarm	Measurement temperature < set temperature - low-temperature protection temperature, prompt low-temperature	(0,50.0)5.0°C
Temperature alarm delay	Temperature is too high or too low alarm delay time	(0,999)1min

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Door opening	Call the police after opening the door	(0,999)1min
Low humidity alarm	Measuring humidity < setting humidity - low wet protection humidity, prompt low wet alarm	(0,50.0)5.0
High humidity alarm	Measure humidity > Set humidity + super humidity protection humidity, prompt super humidity alarm and disconnect humidification	(0,50.0)5.0
Humidity alarm delay	High or low humidity alarm delay time	(0,999)6min

Curve Setting

Settings	Function Description	Setting range
Curve printing time	The curve adds the interval time	(1~9999)60S
Whether to display a temperature curve	0: No display; 1: Display	(0/1)1
Whether to display humidity curves	0: No display; 1: Display	(0/1)1
Whether to display a light curve	0: No display; 1: Display	(0/1)1

System Time

Settings	Function Description	Setting range
years	Current year	(0~99)23
month	Current month	(1~12)12
day	Current day	(1~31)8
when	Current when	(0~23)14
points	Current points	(0~59)4

This page is used to set the system's real-time clock

Lighting and Sterilization

Click once to turn it on and again to turn it off

System parameters

Settings	Function Description	Setting range
Export type	0: CSV; 1: PDF	(0/1)1
User Password	User Access password	(0-9999)8888
Address of correspondence	485 Mailing Address	(1,32)1
Power down memory	0: no memory; 1. Memory	(0/1)1
Restore the factory	0: no recovery; 1: Denotes recovery	(0/1)0
Alarm prompt in English	1: English	(0/1)0
Record backup	0: Close 1: Open, whether to open history backup, when open, you need to insert the U disk all the time, backup once every 30 days	(0/1)1
External buzzer	0: Off 1: On	(0/1)1

Measurement calibration

Settings	Function Description	Setting range
Zero adjustment of chamber temperature	Temperature zero adjustment = actual temperature value - meter measurement value	(-10.0/10.0)0.0°C
Full adjustment of chamber temperature	Temperature full adjustment = 1000*(actual temperature value - meter measurement value)/ meter measurement value	(-999,999)0
Zero adjustment of evaporator temperature	Temperature zero adjustment = actual temperature value - meter measurement value	(-20.0,20.0)0°C
Evaporator temperature full adjustment	Temperature full adjustment = 1000*(actual temperature value - meter measurement value)/ meter measurement value	(-999,999)0

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Zero humidity adjustment	Humidity zero adjustment = actual humidity value - meter measurement value	(-99.9,99.9)0
Humidity full adjustment	Humidity full adjustment = $1000 * (\text{actual humidity value} - \text{meter measurement value}) / \text{meter measurement value}$	(-999,999)0

Factory parameters (password 111)

Settings	Function Description	Setting Range
Gated/dry burn	Gated 0/ dry burn 1	(0/1)0
Gated detection is enabled	0: no detection; 1: Detection	(0/1)0
Water shortage detection enabled	0: no detection; 1: Detection	(0/1)0
The dry-burning test enabled	0: no detection; 1: Detection	(0/1)0
Water shortage detection signal	0: water break detection; 1: Full water detection	(0/1)0
Evaporator detection enabled	0: no detection; 1: Detection	(0/1)0
Humidity Sensor Type	0: the first way humidity sensor; 1: The second humidity sensor	(0/1)0
Gated detection signal	0: open the door; 1: Close the door	(0/1)1

Backlight setting (Password 188)

Settings	Function Description	Setting range
Backlight	0: Turn off backlight 1: Turn on backlight	(0/1)0
Duration of backlight	No operation time to reach the set point message screen	(15~1800)15 S

7. Accessories

S.no	Accessory name	Quantity
1.	Shelves	4
2.	Shelf plates	8

Optional Accessories

- Light barrier
- USB interface
- Upper computer software
- Printer
- Wireless SMS alarm
- CO2 concentration control

8. Circuit Diagram

