Air Jacket CO_2 Incubator
BIO-RHP Series/BPN-CRH Series

Product Features

- Precision temperature control (37%)
- Stable CO_2 concentration control (5%)
- Saturated humidity environment (≥95%)
- Effective microbial contamination prevention

Applications



Basic Research



Tissue Engineering



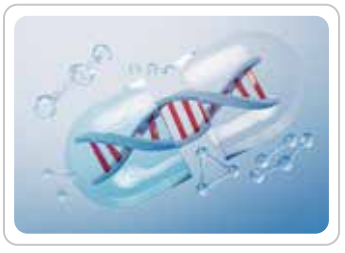
Genetic Engineering



Cell Culture Growth



Tissue Engineering



Pharmaceutical & Drug Testing

Being CO_2 Incubator Family

BPN-

Model	Heating Method	CO_2 Control Way	Controller	Sterilization Technique
CRH	Air jacket	Infrared sensor	LCD with button	Ultraviolet ray + HEPA
RHP	Air jacket	Infrared sensor	Touch screen	180°C dry heat sterilization + HEPA
CH	Air jacket	Infrared sensor	LCD with button	Ultraviolet ray + HEPA

Chamber volume 40L\50L\80L\150L\190L\240L

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External Structure



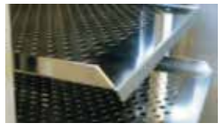
Intelligent Air Circulation System

• Adjustable circulation fan speed. When chamber temperature is stable, the fan speed will be lowered. It is adjusted to optimism cell growth and avoid samples vapor isolation due to high air flow
• Improves temperature uniformity and CO_2 distribution for optimal chamber stability



Door Control Switch

Heating, CO_2 inflow and circulation fan will automatically stop when the door is open



Shelves

• Stainless steel shelves are easy to install & remove
• Shelves heights can be easily adjusted based on chamber volume
• Prevent slippage design When the experimenters place a large number of cell culture bottles or petri dishes and draw the shelves half out of the chamber, the shelves still can keep level to prevent the culture fluid overflow



Integral Internal Chamber

• Stainless steel with rounded corner construction
• Non-corrosive electroplated stainless steel

Adjustable height feet



No Water Tray Humidity Providing Design

Intuitive design transforms the based of the chamber into the coater tray. This ensures maximum surface area for water evaporation and a RH of 95% or more, preventing sample dehydration



Access Port for External Sensor (Optional)

• Facilitates experiment operation and temperature testing, achieving integrity of the experiment
• power cables for auxiliary equipment can be connected through the access port instead of affecting the quality of the chamber scale





Multi-intelligent Detection System

• Replaces traditional buttons with a touch screen interface
• Displays real time performance curves, temp, humidity (optional) and CO_2 concentration at the same time
• With various alarms: Door unsealed, over or low temp, over or low CO_2 concentration, high temperature sterilization, faulty sensor etc
• RS-485 can be installed for long distance remote control. (Optional)

Grooved Door Handle

Ergonomic door handle for effortless operation

Magnetic Door Gasket

Outer door uses magnetic door seal. Inner glass door and chamber uses silicone rubber seal

Heated Outer Door

The outer door is heated to prevent condensed water from forming on the glass door. It ensures the glass is always clear and also avoids the possibility of biological pollution

Inner Glass Door

Door switch activates in relation to opening of glass door instead of external steel door





HEPA Filter (Only Applicable to RHP/RWP)

A. HEPA efficient filters
The CO_2 gas quality is an important factor in judging cell culture in CO_2 incubator. HEPA high efficient filters can filter bacteria and dust in the air, eliminating cross contamination between chamber air & its . it takes just 5 mins to replace all air in the chamber with filtered air after classing the chamber. HEPA air filter is easy to disassemble without any special tools
B. Microbe HEPA filter
Equipped with microbiological grade HEPA fitter at the CO_2 access port, effectively filtering particles ≥0.3μm including bacteria, dust and gas contaminants with a filtration efficiency of 99.99%
C. CO_2 inlet control system
• We supply pressure release valve together with the equipment to ensure pressure stability.
• Pressure protection function, prevents over pressure or low pressure to the pipes that may affect a stable gas supply.

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Friendly and Simple Operation Interface (Touch Screen)

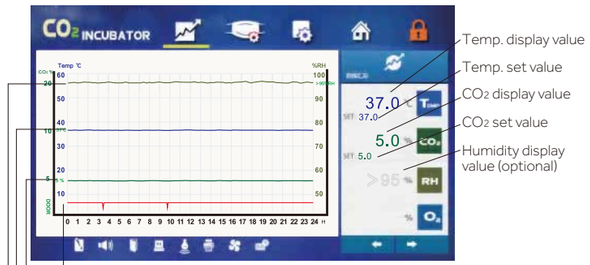
Main interface



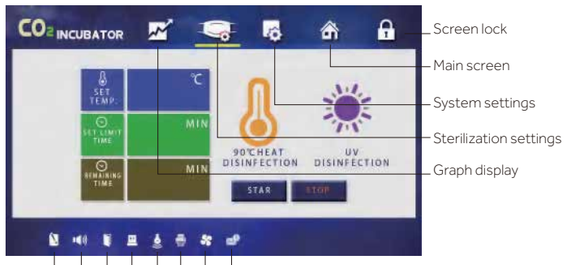
Real-time display



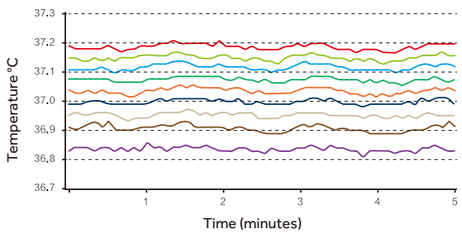
Graph display interface



Sterilization settings

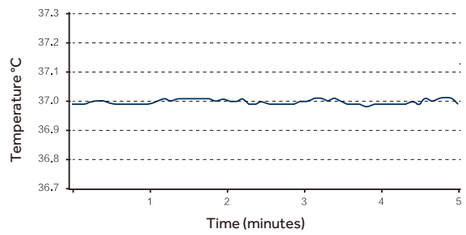


Accuracy Temperature Control System



Temp. in the chamber. uniformity ≤ ±0.2°C

Note: Curve and uniformity are tested when the temp. in chamber is stable



Temp. variation in the incubator is ±0.1°C

Intelligent Touch Screen Controller

- Touch screen interface
- It can display on time performance curve. You can check the temp., humidity (option) and CO_2 concentration three group curves changes at the same time. And abnormal alarm and door open or close message
- When parameters are set, the controller will lock the screen automatically, preventing unauthorized access or accidental operation change
- 72 hours of machine running parameter log
- Optional RS-485 communication port allows remote control via computer and monitoring the parameters and staring and stopping the machine



CO_2 Concentration Sensor

- IR CO_2 sensor is independent to chamber temp & other non - CO_2 parameters, making it suitable for CO_2 chambers even if the door is opened frequently. It also ensures high accuracy

Temperature Control and Monitoring System

- **A. Incubator temperature control system**

  PT100 sensor keeps chamber temperature accurate. It can return to experiment temp. in 3 min after the door is closed

- **B. Door heating system**

  Outer door equipped with heater to ensure comprehensive & uniform heating

- **C. Ambient temp. detection system**

  Independent ambient temp. sensor, automatically adjusts the CO_2 incubator heating system according to experiment temp. Overheatingin the chamber will not take place



- **D. Over temp. protection system**

  It is an independent backup temp. control system besides the CO_2 incubator temp. control system. When the incubator temp. control system fails and causes temp. lose control, the chamber temp. reaches to the over temp. limiter set value, over temp. protection system will cut down the heating and alarm audible with light

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- **E. Power off alarm system**

  Detect the power supply real time. When power off, the incubator will alarm audible with light to avoid any loss due to power shortages

Ultraviolet Sterilization (Optional)

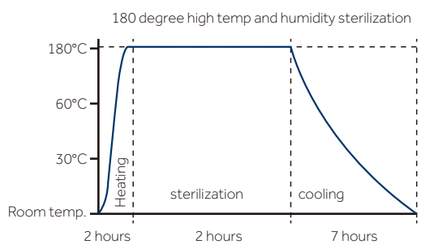
The ultraviolet lamp placed at the rear and top of the chamber kills bacteria in the air and water tray, effectivelypreventing inconsistent results

Sterilization System

180°C dry heat sterilization

- The chamber (Including temp. sensor, CO_2 sensor, fan, shelves and brackets etc) can be sterilized with high temp and humidity. It eliminates bacteria, mold, mycoplasma etc, providing a safe experiment environment
- Simple operating procedure: A single sterilization start button on the control panel starts the sterilization system and thoroughly sterilizes the chamber (Including temp. sensor, CO_2 concentration sensor, fan, shelves and brackets etc)
- The sterilization cycle is 11 hours

180 degree high temp and humidity sterilization



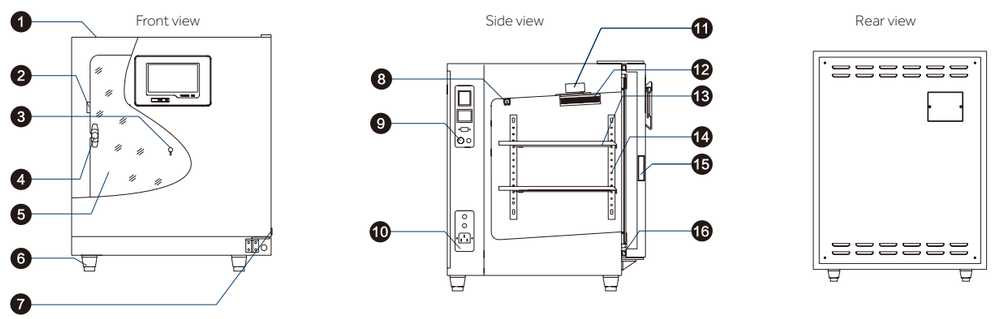
Safety Functions

- High and low temp. alarm
- Door open alarm
- Temp. sensor failure alarm
- Chamber sensor failure alarm
- CO_2 condensation too high or too low alarm
- Disinfection and sterilization reminder
- Independent temp. limiter alarm
- Power cut alarm
- Over temp sensor failure alarm

Specifications

Model	BIO-150RHP Pro
Electrical Requirement (V/HZ)	AC220/50
Input Power (W)	700
Heating Power	Air jacket micro computer PID control
Temp. Control Range (°C)	RT+3~50
Work Environment Temp (°C)	+5~30
Temp.Accuracy (°C)	±0.1 (@37)
CO_2 Control Range	0!20%
CO_2 Control Accuracy	±0.1% (IR sensor)
CO_2 Restore Time (min)	(Door open ≤30s, recovery to 5%) ≤ 3
Temp. Restore Time (min)	(Door open ≤30s, recovery to 37°C) ≤ 8
Relative Humidity (%)	Via natural evaporation ＞ 95 (Optional relative humidity digital display)
Volume (L)	155
Chamber Size (W*D*H)(mm)	480*530*610
Overall Size (W*D*H)(mm)	670*767*880
Standard Shelves Qty (pcs)	3
Sterilization	180° Calius Air and UV sterilization + HEPA high efficient filter

CO_2 Incubator Structure



1. Outer 2. Door switch 3. Testing port 4. Glass door knob 5. Glass door 6. Adjustable feet 7. Door angle limiter 8. Ultraviolet lamp
9. CO_2 switch box 10. Main power input 11. Fan 12. HEPA filter 13. Shelves 14. Adjustable shelve rail 15. Door handle 16. Magnetic door seal