



Qingdao Haier Biomedical Co.,Ltd.

No.280 Feng Yuan Road, High-tech Zone,
Qingdao, 266109, P.R. China
Tel: +86-0532-88935593
E-mail: inquiry@haierbiomedical.com
Website: www.haiermedical.com



Haier Biomedical
International



Haier Biomedical
International



@haiermedicalint



Haier Biomedical
International



Haier Biomedical
International

CO₂ Incubator

HCP-168E



Product Features

- Uniform and stable temperature
- Precise CO₂ concentration
- Quick environment recovery system in the incubator
- 90°C moist heat sterilization technology

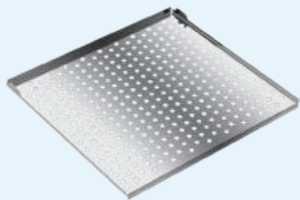
Air Jacketed With Six-sides Heating Design

- Fast temperature recovery and superior temperature uniformity
- High temperature sterilization can ensure that the temperature of each surface can reach 90°C



Co2 Sensor

- The new IR sensor with high temperature resistance of 100 °C , can withstand more than 300 high heat sterilization cycles
- Based on the NDIR measurement principle and uses a silicon MEMS transmitter to replace the traditional light source
- Zero drift and without need for calibration



Partition

- Anti-slip design
- High levelness ensures uniform growth of adherent cells
- Mirror stainless steel to ensure high surface cleanliness, easy to clean

Air Flow System

- The air flow circulation ensures proper uniformity throughout the chamber



Integrated Liner

- Integral design, large arc design, easy to clean

Door Switch

- When the door opens, heating, air intake and fan automatically stop to minimize the risk of cross contamination

Inner Door

- Tempered glass provides easy observation of sample growth
- Three/six inner doors optional



Operation Panel

- 4-inch LCD screen, vivid display and easy operation
- Abnormal operation sound and light alarm to ensure sample safety
- Running data can be traced, large capacity storage, data can be exported through USB

Test Hole

- Providing access for convenient measurement of internal statistics



Outer Door

- Prevents the condensation of the inner door
- Left/right hand door optional

Inner and Outer Door Seal

- Silicone material, prevent aging after heating
- Close the inner cavity to ensure the cleanliness and uniformity of the inner chamber



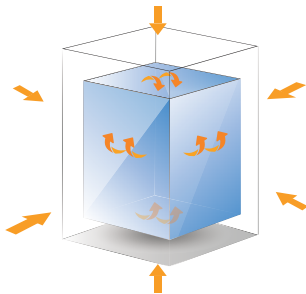
Bottom Reservoir Humidification

- Reservoir humidification method, no water tray, easy to clean, avoid breeding bacteria
- Large evaporation area and fast humidity recovery

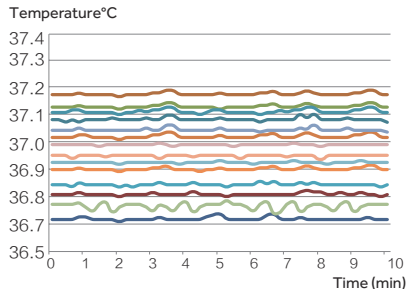
Precise and Accurate Temperature Control



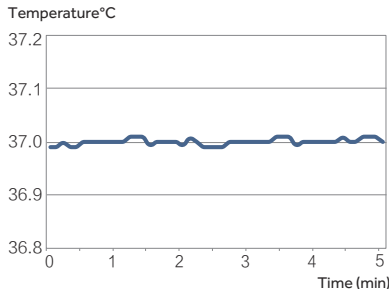
Controls the temperature precisely, within $\pm 0.05^{\circ}\text{C}$, with six-sided heating based on the fuzzy PID control principle, to provide a stable temperature to ensure the normal growth of cells throughout their life cycle.



Six-sided heating



Uniformity of 27 measuring points $< \pm 0.25^{\circ}\text{C}$

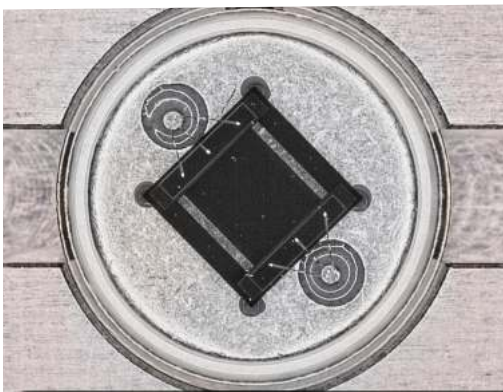


Central consistency point $< \pm 0.05^{\circ}\text{C}$

Precise CO2 Concentration Using New IR Sensor Control Technology



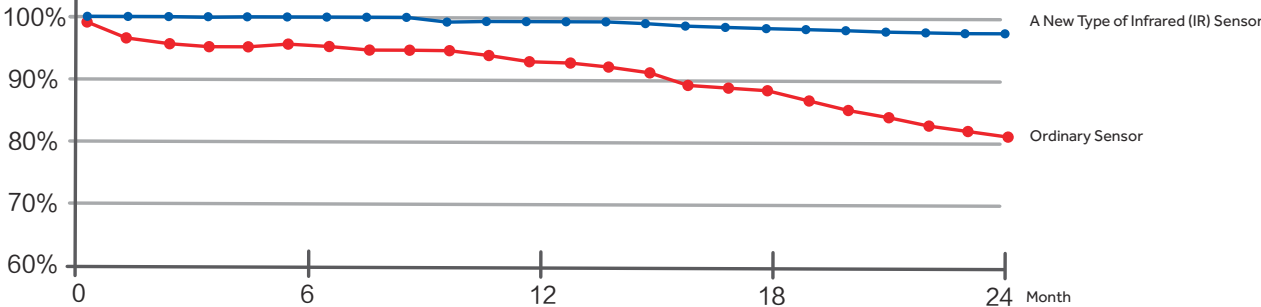
Haier Biomedical's new IR Sensor technology uses NDIR measurement principles and withstands high temperature of 100°C . The silicon MEMS transmitter can carry out more than 300 dry heat sterilization cycles to extend the service life to 15 years. Built-in temperature and humidity compensation technology reduces the impact of changes of humidity and temperature without the need for calibration after the high temperature sterilization. Five points calibration yields a higher measuring accuracy, sensitivity with less drift (less than 3% within 2 years).



Silicon-based mems transmitter



Infrared (IR) sensor



Drift comparison between infrared sensor and ordinary sensor

*The equipment is tested by Haier in a controlled environment. Haier does not guarantee that the results of field tests under different conditions will be consistent. The test model is HCP-168E

Fast Environment Recovery for Optimal Cell Growth



Adopting active air flow control technology, based on the fuzzy PID control principle, the parameters can be restored without overshoot. After opening the door for 30 seconds, the temperature and CO₂ concentration can be quickly restored within 4 minutes. Even if multiple users share a CO₂ incubator and frequently open and close the door, the stability and uniformity of the incubator can be ensured.

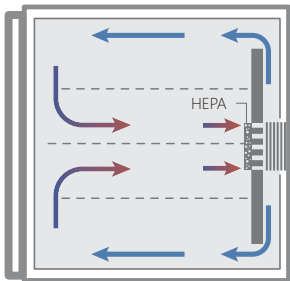
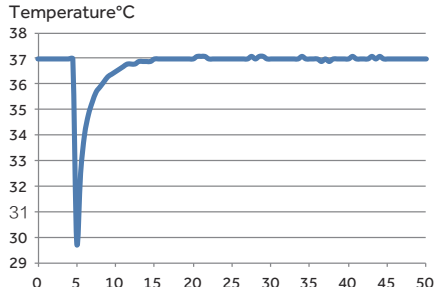
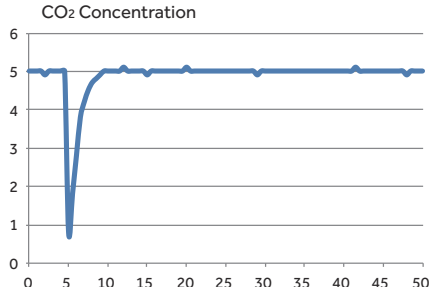


Illustration of purified airflow



Temperature recovery curve (door open for 30s)



CO₂ concentration recovery curve (door open for 30s)

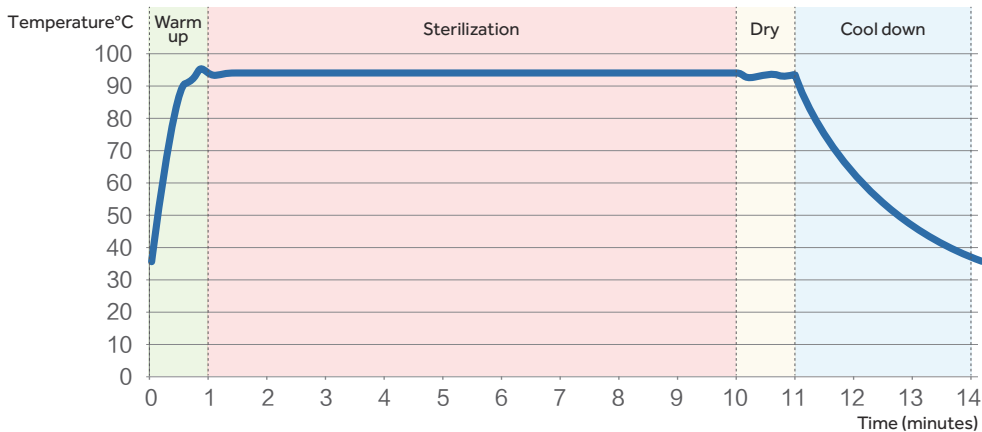
90°C Moist Heat Sterilization Technology



Effective sterilization of microorganisms including bacillus and spores with strong resistance, at 90°C under moist heat, without the need for consumables. Simply press the "sterilization button", to activate and complete the sterilization process automatically in 14 hours.

Delivers sterility level within the chamber of all surfaces to meet WS/T367-2012 standards.

All components are sterilized during the process, there is no need to disassemble internal components (including CO₂ sensors) and decontaminate separately, thus avoiding secondary pollution.



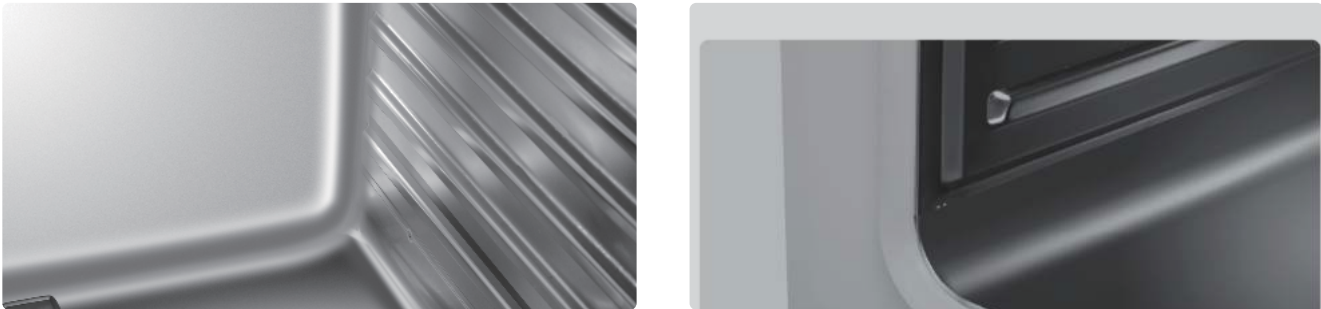
Sterilization Temperature Profile

Forty-seven points were tested in the working chamber, including glass inner doors and partitions. All regions reached 90°C and maintained for 9 hours.

*The equipment is tested by Haier in a controlled environment. Haier does not guarantee that the results of field tests under different conditions will be consistent. The test model is HCP-168E

Easy to Clean Interior

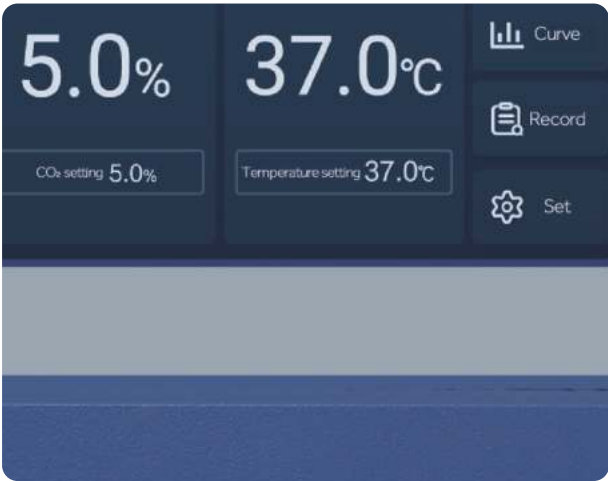
The working chamber is plasma electro polished, stamped stainless steel with wide-arc, laser welded corners. Bracketless shelving design ensures that it is quick and easy to clean.



Innovative Design with Attention to Detail



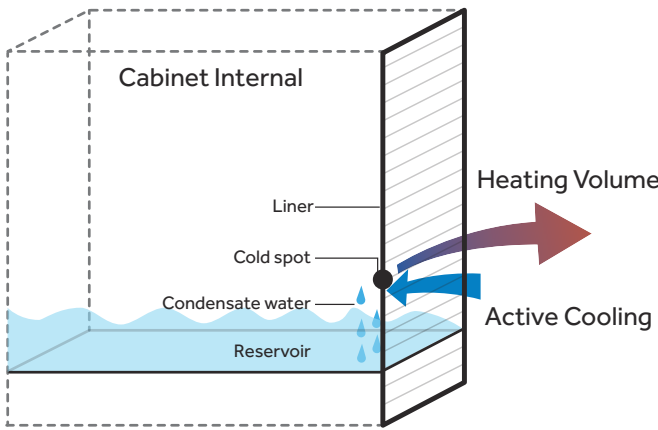
Safe anti-slip design of pull-out shelves.



Data traceable for 15 years with large storage capacity and data exportable through USB.

Reservoir Humidification Without Condensation

Active heat pipe condensation technology with condensate water directly return to the reservoir, to ensure no condensation.



Optional Accessories

| Name | Material Description |
|-------------------------|---|
| Oxygen module | Zirconia O ₂ sensor, control accuracy: 0.1%; control range: 1-21% |
| 3 Inner door | Reduce the temperature, humidity and carbon dioxide concentration in the box after opening the door, and minimize the mutual influence of multiple cultures |
| 6 Inner door | Reduce the temperature, humidity and carbon dioxide concentration in the box after opening the door, and minimize the mutual influence of multiple cultures |
| Water Tray | Provides different bottom humidification methods |
| Roller base | Easy to move, prevent the ground bacteria contamination |
| Stacking frame | Stacking the two incubators makes the fixation firmer |
| HEPA filter | Ensure the cleanliness of the box, suitable for users who open and close the door frequently |
| Pressure reducing valve | Suitable for users with cylinder gas supply |
| Partition | Increase the number of samples cultured |

Specifications

| Model | Volume (L) | Exterior Dimensions (W*D*H)(mm) | Interior Dimensions (W*D*H)(mm) | Shelf Dimensions (W*D*H)(mm) | Standard Configuration of Shelves No./Maximum |
|----------|------------|---------------------------------|---------------------------------|------------------------------|---|
| HCP-168E | 170 | 714*812*887 | 490*560*650 | 473/434 | 3/11 |

| Temperature Control Mode | Humidity Control Range at 37°C | Temperature Sensor | Temperature Control Range | Temperature Fluctuation | Temperature Uniformity | CO ₂ Sensor | CO ₂ Control Range | CO ₂ Control Accuracy |
|--------------------------|---------------------------------------|--------------------|----------------------------------|-------------------------|------------------------|------------------------|-------------------------------|----------------------------------|
| Air jacket | High humidity≥90% Low humidity≥80% | PT1000 | Ambient temperature +3°C~55°C | ±0.1°C | ±0.3°C | Infrared (IR) sensor | 0~20% | 0.1% |