Haier Biomedical
Intelligent Protection of Life Science

CO_2 Incubator

HCP-80E/168E/258E

Product Features

- Uniform and stable temperature
- Precise CO_2 concentration
- Quick environment recovery system in the incubator
- 90°C moist heat sterilization technology

Qingdao Haier Biomedical Co.,Ltd.

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

Haier Biomedical International
Haier Biomedical International
@haiermedicalint
Haier Biomedical International
Haier Biomedical International

Product Parts

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

Door Switch

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

Inner Door

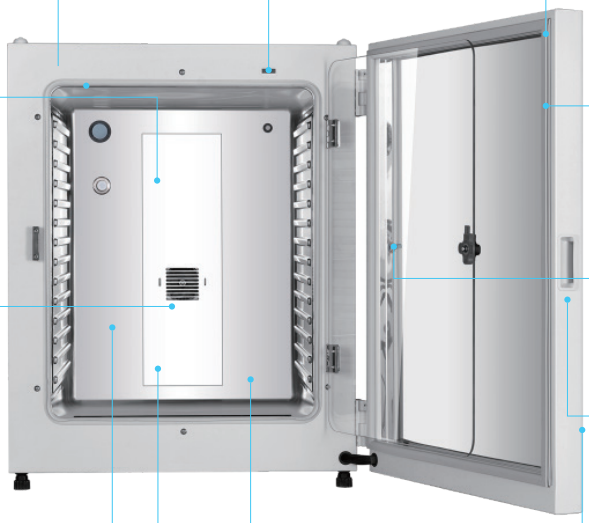
- Tempered glass provides easy observation of sample growth
- Three/six inner doors optional (HCP-168E)

Co_2 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

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

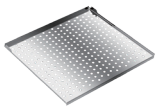


Test Hole

Providing access for convenient measurement of internal statistics

Partition

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



Outer Door

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

Air Flow System

The air flow circulation ensures proper uniformity throughout the chamber

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

Integrated Liner

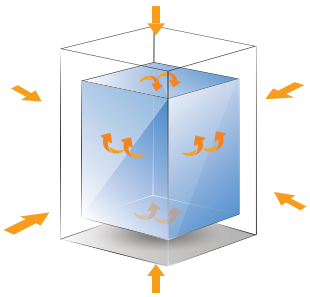
Integral design, large arc design, easy to clean

Bottom Reservoir Humidification

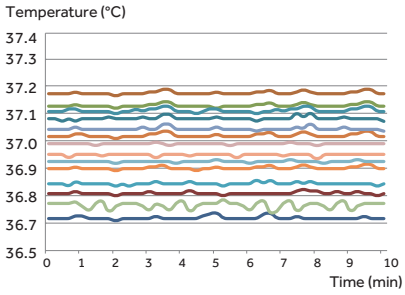
- Reservoir humidification method, no water tray, easy to clean, avoid breeding bacteria
- Large evaporation area and fast humidity recovery

Precise and Accurate Temperature Control

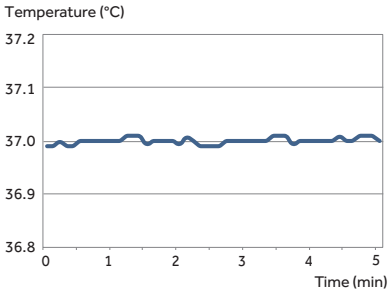
Controls the temperature precisely, within ±0.1°C, with six-sided heating based on the fuzzy PID control principle, to provide a stable temperature to ensure the normal growth of cells throughout their life cycle.



Six-sided heating



Uniformity of 27 measuring points<±0.3°C

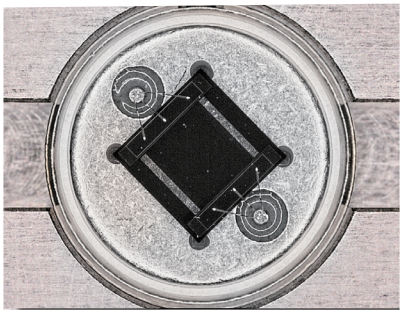


Central consistency point<±0.1°C

Precise CO_2 Concentration Using New IR Sensor Control Technology

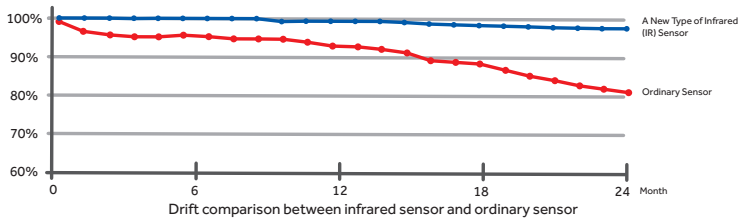
Precise CO_2 Concentration Using New IR Sensor Control Technology

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 reduce the impact of changes in 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 0.3% 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 CO_2 concentration can be quickly restored within 4 minutes. Even if multiple users share a CO_2 incubator and frequently open and close the door, the stability and uniformity of the incubator can be ensured.

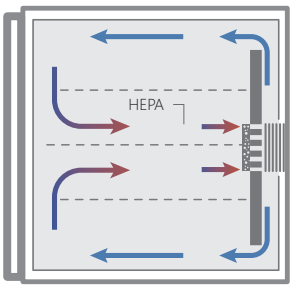
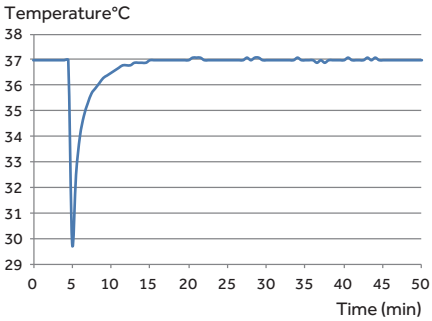
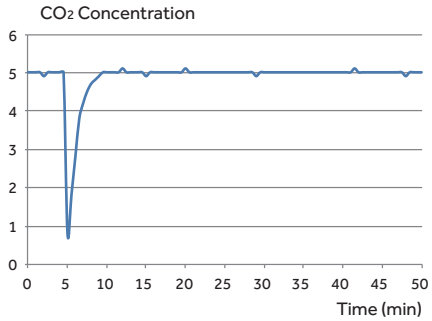


Illustration of purified airflow



Temperature recovery curve
(door open for 30s)



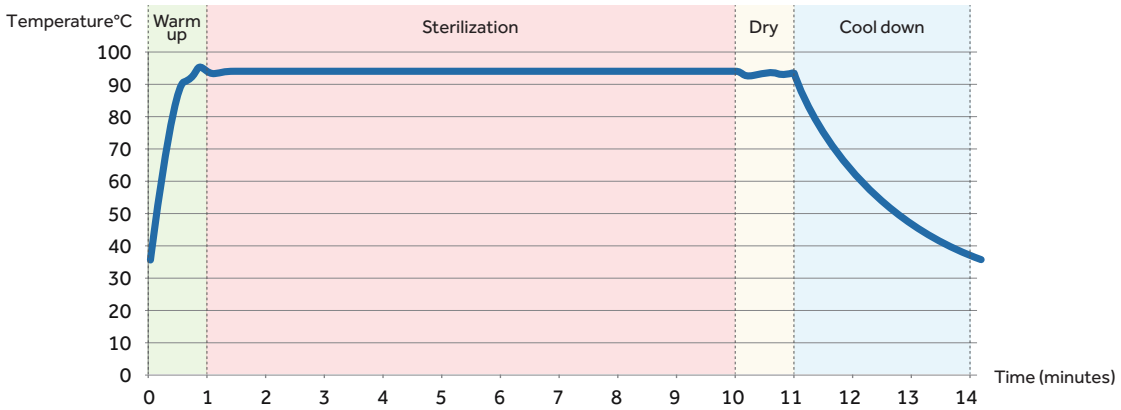
CO2 concentration recovery curve
(door open for 30s)

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 dissemble internal components (including CO_2 sensors) and decontaminate separately, thus avoiding secondary pollution.



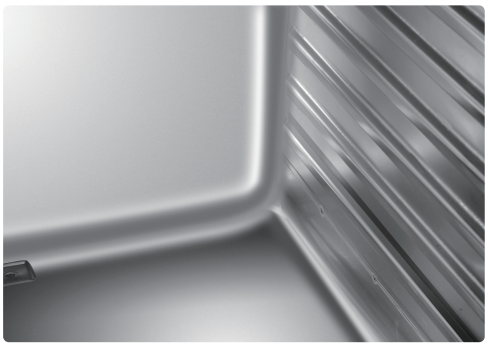
Sterilization Temperature Profile

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.

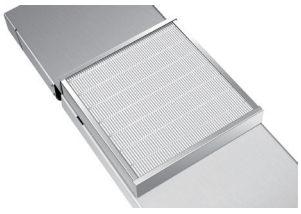


Innovative Design with Attention to Detail

Safe anti-slip design of pull-out shelves.

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

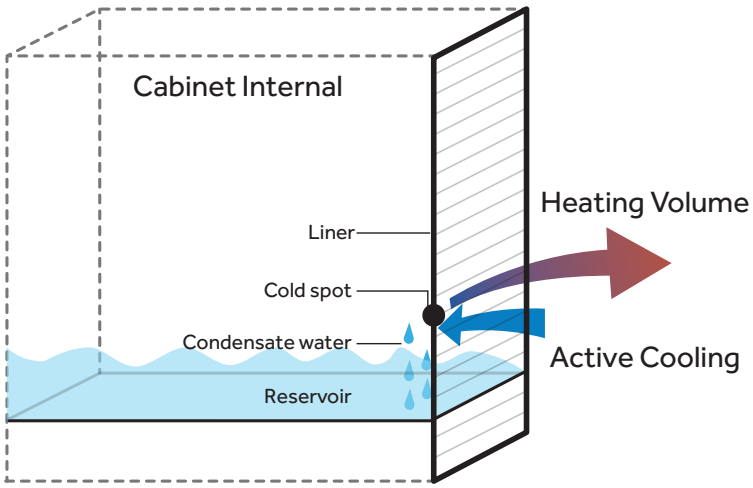
The Quality of ISO Class 5 Clean Room Can Ensure a Better Cell Growth Environment



The optional HEPA high-efficiency filtration system combined with the unique air duct circulation design can continuously filter pollutants (biological pollutants and suspended particles) in the cabinet, ensuring that the incubator can reach the ISO class 5 clean room within 5 minutes after the external door is closed, which is equivalent to the class 100 environment of the 209 E standard of the united states

Reservoir Humidification Without Condensation

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



Optional Accessories

Name	Material Description
Oxygen Module (for HCP-168E/80E)	Zirconia O_2 sensor, control accuracy: 0.1%; control range: 1-21% or 5-90%
3 Inner Door (for HCP-168E)	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 (for HCP-168E)	Reduce the temperature, humidity and carbon dioxide concentration in the box after opening the door, and minimize the mutual influence of multiple cultures
8 Inner Door (for HCP-258E)	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
HEPA Filter	Ensure the cleanliness of the cabinet, suitable for users who open and close the door frequently; After opening the door for 30 seconds, the air inside the cabinet can be passed through HEPA filters within 5 minutes and reach ISO 5 clean room quality
Pressure Reducing Valve	Suitable for users with cylinder gas supply
Shelf	Increase the number of samples cultured 4 materials : SUS304 single mirror surface SUS304 double mirror surface tempering glass Pure copper
Cylinder Switching	Supports switching between multiple steel cylinders to ensure uninterrupted air intake into the incubator
Stacking Bracket	Supports stacking of different volume models up and down, saving laboratory space

Specifications

Model			HCP-80E	HCP-168E	HCP-258E
Type			Air Jacket	Air Jacket	Air Jacket
Construction	Chamber Volume (L)		80	170	258
	Interior Chamber		304 stainless steel	304 stainless steel	304 stainless steel
	Exterior Chamber		cold-rolled steel powder coated	cold-rolled steel powder coated	cold-rolled steel powder coated
	Access Port		/	42mm diameter	35mm diameter
	Data Outputs		remote alarm contacts, USB	remote alarm contacts, USB	remote alarm contacts, USB
Dimensions	Net/Gross Weight (approx)	kg	75/90	95/125	110/150
		lbs	165/198	209.4/275	243/330
	Interior Dimensions (W*D*H)	mm	400*420*490	490*560*650	570*610*745
		in	15.7*16.5*19.3	19.3*22*25.6	22.4*24.0*29.3
	Exterior Dimensions (W*D*H)	mm	625*684*735	714*812*887	794*867*985
		in	24.6*26.9*28.5	28.1*32*34.9	31.3*34.1*38.8
	Packing Dimensions (W*D*H)	mm	700*770*910	800*890*1050	870*950*1145
		in	30*28*36.6	35*31.5*41.3	34.2*37.3*45.2
Shelves	Dimensions (W*D)	mm	380*300	473*434	550*484
	Number Standard/Maximum		3/8	3/11	3/13
	Max.Load Per Shelf/Total Load	kg	15/45	15/45	15/45
	Construction		perforated, adjustable	perforated, adjustable	perforated, adjustable
Electrical	Rated Voltage Power Supply (V/Hz)		220-240/50/60	220-240/50/60	220-240/50/60
	Nominal consumption (kw) (Steri-Run)		0.08 (1.0)	0.095 (1.5)	0.12 (1.8)
Control	Controller		Microprocessor	Microprocessor	Microprocessor
	Display		4 inch LED button screen	4 inch LED button screen	4 inch LED button screen
CO_2	Control Accuracy (%)		0.10	0.10	0.10%
	Range (%)		0-20	0-20	0-20%
	Alarm range (%)		±0.5	±0.5	±0.5%
	Inlet pressure		12-17PSI(0.8-1.2bar)	12-17PSI(0.8-1.2bar)	12-17PSI(0.8-1.2bar)
	Gas purity		min.99.5% or medical quaity	min.99.5% or medical quaity	min.99.5% or medical quaity
	CO_2 inlet		1/8" hose (barbed)	1/8" hose (barbed)	1/8" hose (barbed)
	Senser		IR	IR	IR
	Recovery Time ** (after 30s door opening, 98% from initial value) (min)		4	4	4
	CO_2 Inlet Filter (μm)		＜0.2	＜0.2	＜0.2
Alarms	High/Low Temperature		Y	Y	Y
	Remote Alarm		Y	Y	Y
	Sensor Error		Y	Y	Y
	Excessive CO_2 concentration		Y	Y	Y
	Water shortage reminder		N	N	N
	Door Ajar		Y	Y	Y
Temperature Parameter	Control Accuracy (°C)		0.1	0.1	0.1
	Range (°C)		Ambient Temperature +3-55	Ambient Temperature +3-55	Ambient Temperature +3-55
	uniformity (°C)		±0.3	±0.3	±0.3
	Ambient range (°C)		18-34	18-34	18-34
	Temperature fluctuations (°C)		±0.1	±0.1	±0.1
	senser		1*PT1000	1*PT1000	1*PT1000
	Recovery time *** (after 30s door opening, 98% from initial value) (min)		4	4	4
Sterilization Cycle	Cycle Temperature		90°C moist heat sterilization	90°C moist heat sterilization	90°C moist heat sterilization
	Cycle Duration		Under 14 hours	Under 14 hours	Under 14 hours
Humidity	RH (Relative Humidity) (°C)		High humidity ≥90% @37 low humidity ≥80% @37	High humidity ≥90% @37 low humidity ≥80% @37	High humidity ≥90% @37 low humidity ≥80% @37
	Humidity Reservoir (L)		max.1.75/min 0.5	max.3.5/min 0.5	max.5.5/min 0.5
Option	HEPA Filter		Y	Y	Y
	Pressure reducing valve		Y	Y	Y
	4-20mA		Y	Y	Y
	The cylinder switch		Y	Y	Y
	Shelf		Y	Y	Y
	Water Tray		Y	Y	Y
	3 Inner door		N	Y	N
	6 Inner door		N	Y	N
	8 Inner door		N	N	Y
	Roller base		Y	Y	Y
	Pure copper inner liner		Y	Y	Y
	Pure copper shelf		N	Y	N
	Humidity display		N	N	N
	Oxygen module		Y	Y	N
Others	Certification		CE	CE	CE

*Product appearance and specifications are subject to change without notice
** For CO_2 not exceeding 5.2%
*** For temperature not exceeding 37°C