Haier Biomedical
Intelligent Protection of Life Science

Microbiological Culture Solutions
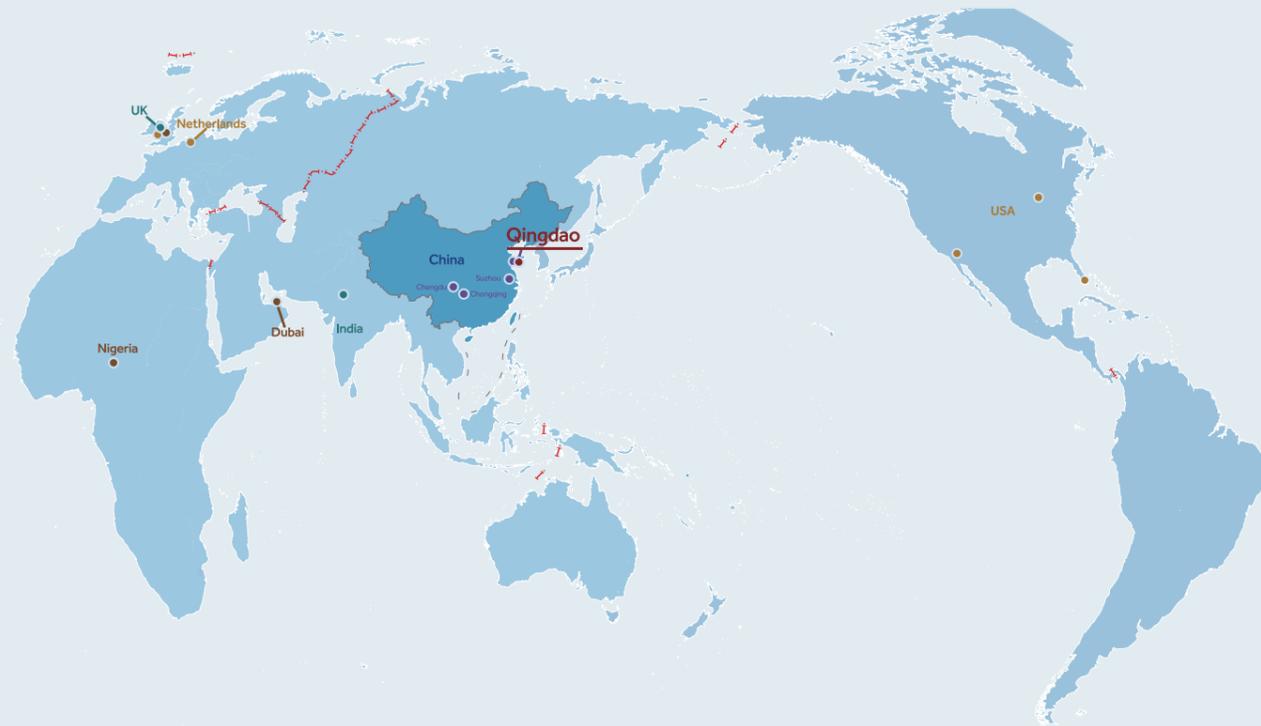
● Headquarter ● Global warehouse ● Training center ● Global subsidiary ● Manufacturing base

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2023.09

CONTENT

CO₂ Incubator

Haier Biomedical IoT enabled CO₂ incubator with 180°C dry heat sterilisation provides a safe and secure reproducible growth environment for cell cultures.

HCP-80   HCP-168   HCP-258

IR Sensitive Control of CO₂ Concentration

The new IR sensor with high temperature resistance of 190°C is based on the NDIR measurement principle and uses a silicon MEMS transmitter to replace the traditional light source. It can withstand more than 300 dry heat sterilization cycles with a service life of up to 15 years and control accuracy of ±0.1%. German IR infrared sensing technology, zero drift, without need for calibration, drift less than 0.3% within 2 years

6-sided heating sketch

304 Stainless Interior

Adjustable Feet

It can be double stacked

7-inch Touchscreen

Displays CO₂ concentration and temperature data in real time. 15 years of data can be exported via USB
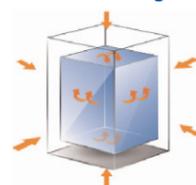
Inner Door

The door ensures the inside of the cabinet is sealed

Outer Door

The heated outer door prevents the condensation of the inner door

Internal Partition

Safety anti-slip design of pull out shelves

180°C Dry-heat Sterilization

All internal components do not need to be disassembled and do not need separate autoclave sterilization to prevent secondary pollution. Cleaning consumables are not needed, one-button sterilization. German INFRARED CO₂ sensor, NDIR light source technology drift < 0.3% within two years. The unit can withstand sterilization at 180oc with no disassembly and no manual calibration

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.
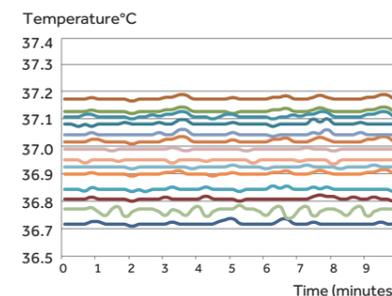
Uniformity of 27 measuring points <±0.3°C
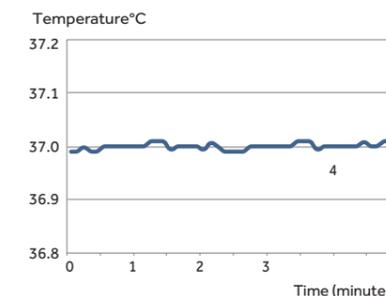
Central consistency point <±0.1°C

Precise CO₂ Concentration Using New IR Sensor Control Technology

Haier Biomedical's new IR Sensor technology uses NDIR measurement principles and withstands high temperatures of 190°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 in humidity and temperature without the need for calibration after the high temperature sterilization. Five point calibration yields a higher measuring accuracy, sensitivity with less drift.

A New Type of Infrared (IR) Sensor

Ordinary Sensor
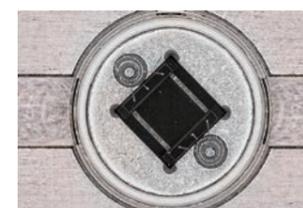
Silicon-based mems transmitter
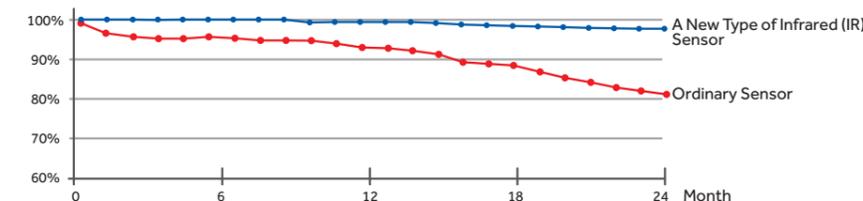
Sketch of drift less than 0.3%

Fast Environment Recovery for Optimal Cell Growth

Adopting active air flow control technology, and 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.
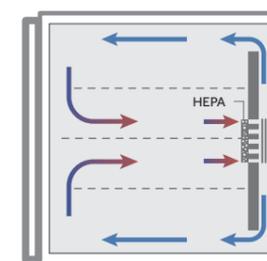
Illustration of purified airflow

Temperature recovery curve (door open for 30s)

CO₂ concentration recovery curve (door open for 30s)

180°C Dry-Heat Sterilization Technology Minimises Contamination

Easy and effective sterilization of microorganisms including bacteria, fungi and microplasma with strong resistance, at 180°C high temperatures without the need for consumables. Simply press the "sterilization key" to activate and complete the sterilization process automatically in just 12 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.
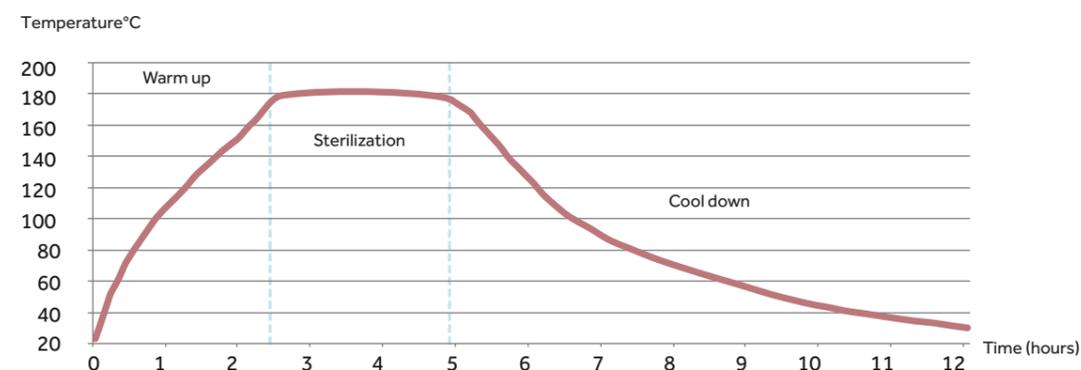
High Efficiency Microbial Filter

The CO_2 inlet is equipped with a high-efficiency microbial filter, with 99.99% filtration efficiency for particles larger than or equal to 0.2μm in diameter. It can effectively filter bacteria and dust particles in the CO_2 gas line to ensure the safety of experimental results.

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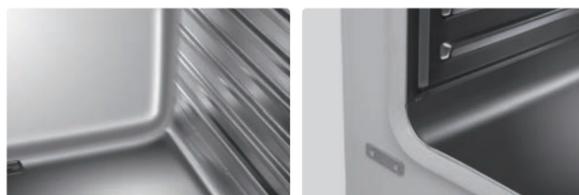
The working chamber is plasma electro polished, stamped stainless steel with wide-arc, laser welded corners. Bracketless shelving design ensures that it is quick and easy to clean.

Interactive Intelligent Display with Easy Touch Operation

Touch-sensitive screen with rapid sensing even in rubber gloves. Green indicates normal operational parameters, while a red warning display indicates abnormal, making it easy to view data at a glance. A red warning display and audible buzzer will alarm when water level is low.

Home screen red warning.

Real-time display of operation data & real-time display of temperature, for CO_2 concentration and O_2 concentration, and the data during the culture cycle can be viewed at any time.
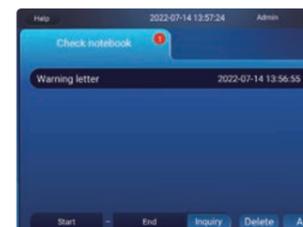
Announcement function de-signed for multiple persons to use the same incubator making it clear to all users on important matters.

Operation mode clear management authority: three-levels of authority to ensure the security of data.

Real-time Monitoring

An IoT module with multi-screen interface provides real-time uploadset parameters, operation parameters, operation curves, recordsand event records through the IoT cloud platform. The operation ofincubator can be monitored at anytime and anywhere throughmobile APP or computer terminal. Alarm function, and servicefunction are available through an one button touch.

Anti-Condensation Heating System to Reduce Pollution Risk

The door on the CO_2 incubator radiates heat to the inner glass door, effectively preventing the glass door from forming condensation. The possibility of microbial contamination caused by the condensate water is eliminated.

Intelligent Control of Circulating Air Maintains Uniformity

Automatically adjusts the circulation of the air flow, optimising the air flow to avoid air volatilization of samples and ensuring proper uniformity throughout the chamber.

Comprehensive Safety Alarm System

The system ensures the safety of experiments and processes by utilizing an independent temperature alarm system, including a sound light and remote reminder. Other alarms include CO_2 concentration, door ajar and water shortage.

CO₂ Incubator

Innovative and User-friendly Design with Attention to Detail

Safe anti-slip design with pull out shelves.

Drainage design

Cabinet Internal
Heat Volume
Liner
Cold Spot
Condensate Water
Active Cooling
Reservoir
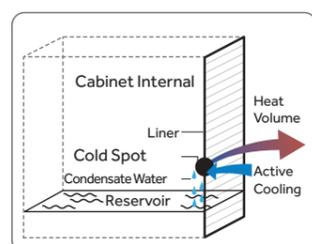
Active heat pipe condensation technology with any condensation directly returning to the reservoir.

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

Accurate oxygen control (optional) for HCP-168
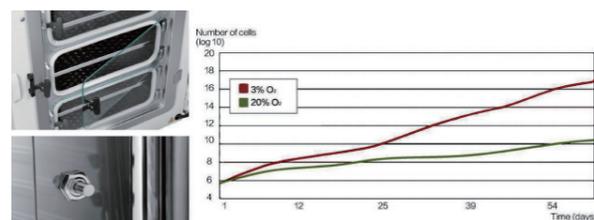
Three or six internal doors are available to reduce gas consumption

O₂ concentration can be controlled within the range of 1-21%

After opening the door for 30 seconds, the O₂ concentration can recover to 5% in only 8 minutes and 1% in 18 minutes

High precision zirconia O₂ sensor, oxygen control accuracy 0.1%

Advanced and reliable gas solenoid valve, low noise

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

Optional Accessories

| Name	Material Description
Oxygen module	Zirconia O₂ 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
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
Partition	Increase the number of samples cultured

Specifications

	Model		HCP-80	HCP-80B	HCP-168	HCP-168B	HCP-258	HCP-258B
Type			Air Jacket		Air Jacket		Air Jacket	
Construction	Chamber Volume (L)		80		170		258	
	Interior Chamber		304 Stainless Steel					
	Exterior Chamber		Cold-rolled steel powder coated					
	Access Port		/		35mm Diameter		35mm Diameter	
	Data Outputs		Remote Alarm Contacts, USB, and Optional 4-20mA					
Dimensions	Net/Gross Weight (approx)	kg	75/100		95/130		110/160	
		lbs	165/220		209.4/286.6		243/353	
	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	765*710*930		890*800*1085		950*880*1145	
		in	30*28*36.6		35*31.5*43		37.4*35*45	
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					
Electrical	Rated Voltage Power Supply (V/Hz)		220-240-50/60	115/60	220-240-50/60	115/60	220-240-50/60	115/60
	Steri-Run Consumption (kw)		0.85/0.75		1.3/1.1		1.35/1.2	
Control	Controller		Microprocessor		Microprocessor		Microprocessor	
	Display		7 "LCD Screen		7 "LCD Screen		7 "LCD Screen	
CO₂	Control Accuracy		0.1%		0.1%		0.1%	
	Range		0-20%		0-20%		0-20%	
	Alarm Range		±0.5%		±0.5%		±0.5%	
	Inlet Pressure		12-17Psi (0.8-1.2 Bar)					
	Gas Purity		≥99.5%					
	Sensor		IR		IR		IR	
	Recovery Time at 5vol. -%/CO₂ for a 30 Second Door Opening* (min)		4		4		4	
	CO₂ Inlet Filter (μm)		<0.2		<0.2		<0.2	
Alarms	High/Low Temperature		Y		Y		Y	
	Remote Alarm		Y		Y		Y	
	Excessive CO₂ Concentration		Y		Y		Y	
	Water Shortage		Y		Y		Y	
	Sensor Error		Y		Y		Y	
	Door Ajar		Y		Y		Y	
Temperature Parameter	Control Accuracy (°C)		0.1		0.1		0.1	
	Range		Ambient temperature+3-55°C					
	Uniformity (°C)		±0.3		±0.3		±0.3	
	Ambient Range (°C)		18-32		18-32		18-32	
	Sensor		2PT1000		2PT1000		2PT1000	
	Recovery Time at 37°C for a 30 Second Door Opening* (min)		4		4		4	
Sterilization Cycle	Cycle Temperature		180°C on internal Surfaces and Shelves					
	Cycle Duration		Under 12 Hours		Under 12 Hours		Under 12 Hours	
Humidity	RH (Relative Humidity)		Setting 37°C ≥90%		Setting 37°C ≥90%		Setting 37°C ≥90%	
	Humidity Reservoir		Max. 1.3L/Min 0.5L		Max. 3L/Min 0.5L		Max. 3.6L/Min 0.5L	
Accessories	Hepa Filter		Optional		Optional		Optional	
	Pressure Reducing Valve		Optional		Optional		Optional	
	RS485		Y		Y		Y	
	4-20mA		Optional		Optional		Optional	
	Cylinder Switching Devicey		Optional		Optional		Optional	
Certification			CE	UL	CE	UL	CE	UL

Product appearance and specifications are subject to change without notice

# CO₂ Incubator

HCP-80E   HCP-168E   HCP-258E

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

Temperature (°C)

Uniformity of 27measuring points<±0.3°C

Central consistency point<±0.1°C
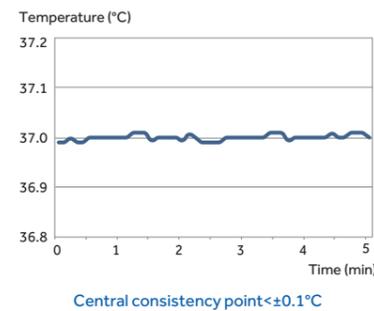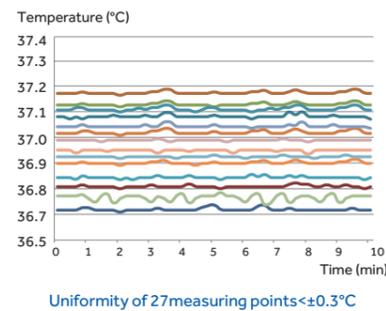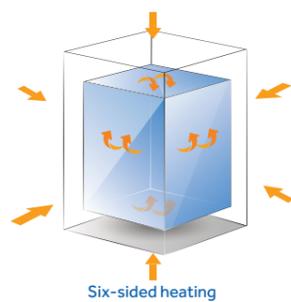
## Precise CO₂ Concentration Using New IR Sensor Control Technology

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 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 3% within 2 years).
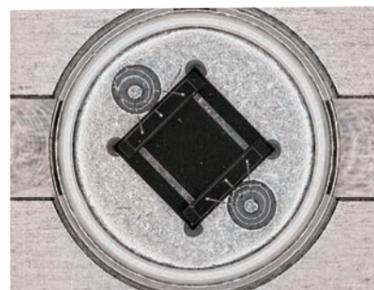
Silicon-based mems transmitter   Infrared (IR) sensor
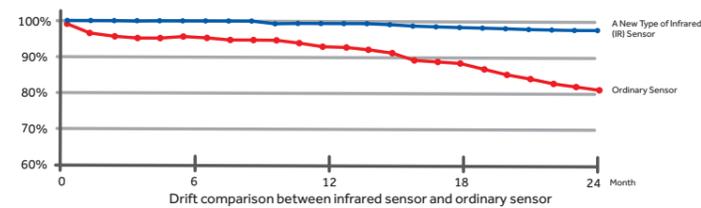
A New Type of Infrared (IR) Sensor

Ordinary 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.
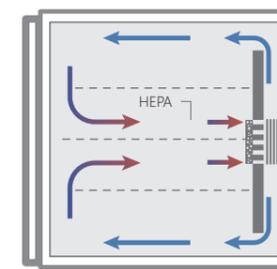
Illustration of purified airflow

Temperature recovery curve (door open for 30s)
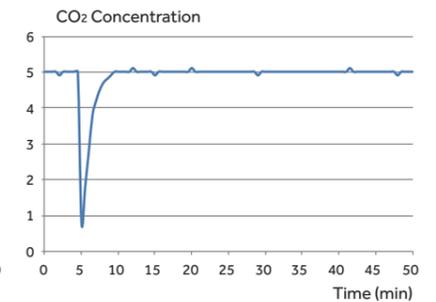
CO2 concentration recovery curve (door open for 30s)

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 dissemble internal components (including CO₂ sensors) and decontaminate separately, thus avoiding secondary pollution.

Temperature°C | Warm up | Sterilization | Dry | Cool down
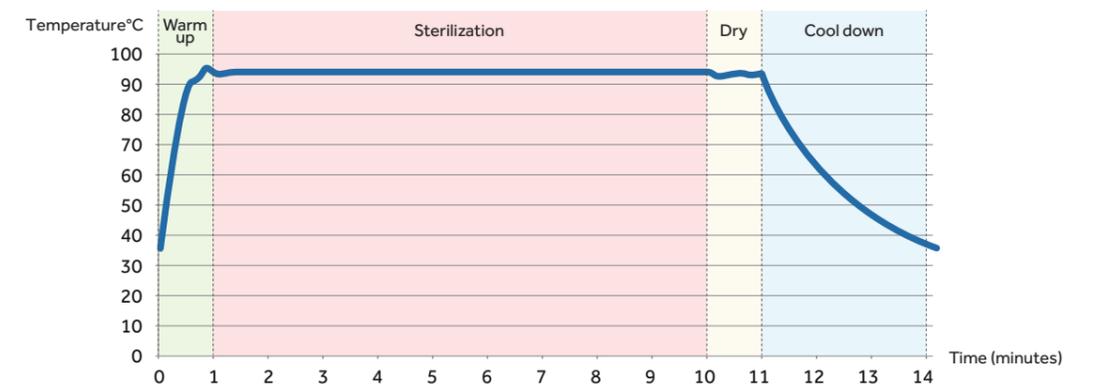
Sterilization Temperature Profile

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.

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Door Switch

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

Co₂ Sensor

- The new IR sensor with high temperature resistance of 100 ℃, 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

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℃

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
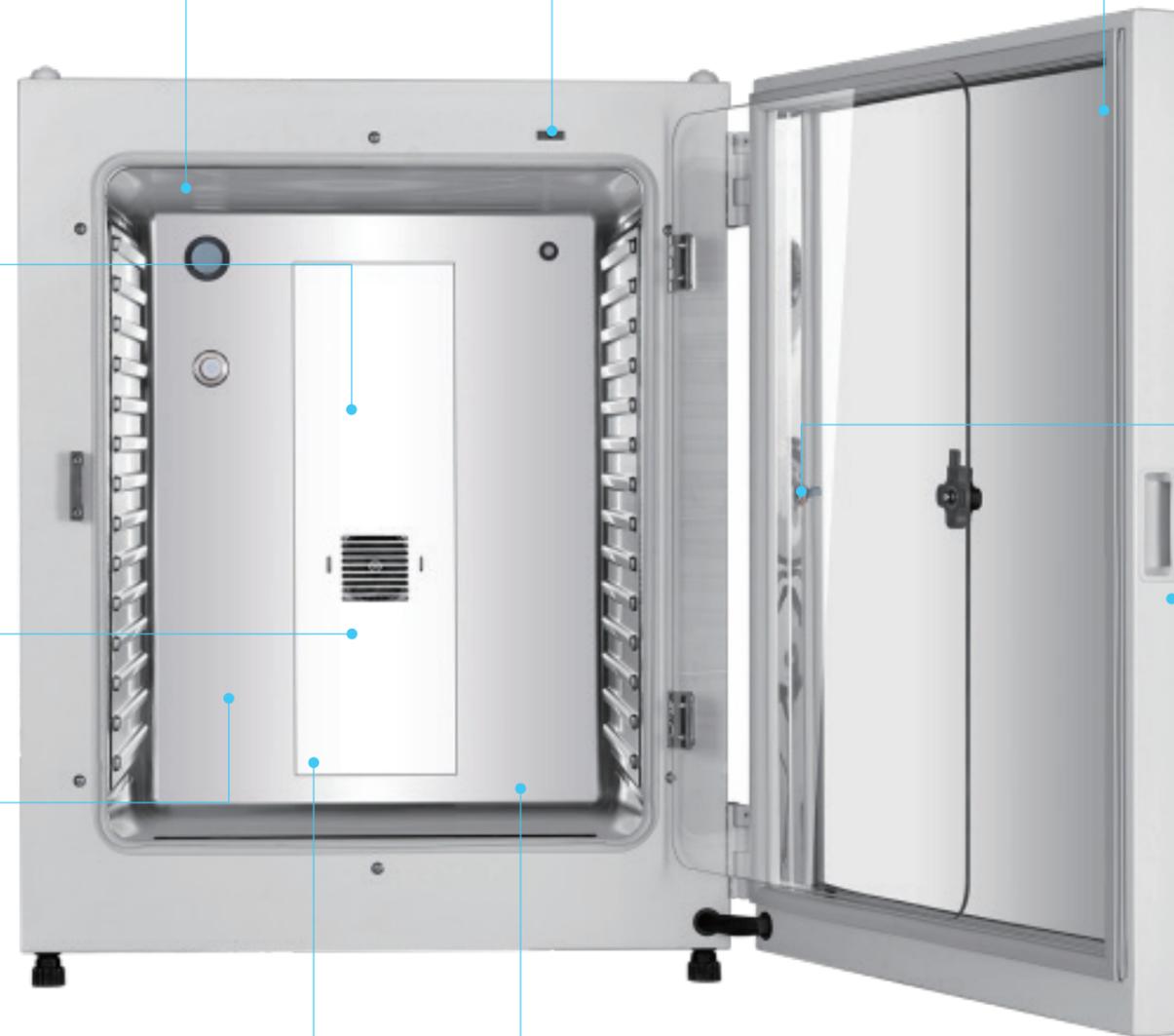
Easy to Clean Interior

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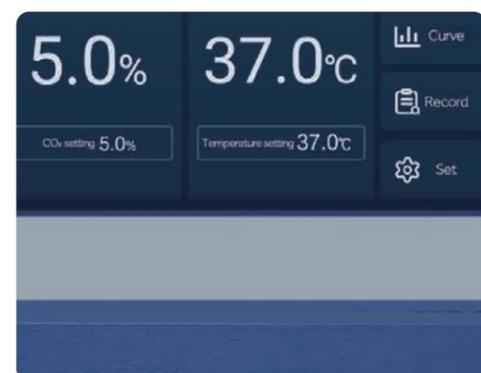
Data traceable for 15 years with large storage capacity and data exportable through USB.

Reservoir Humidification Without Condensation

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

Cabinet Internal
Liner
Cold spot
Condensate water
Reservoir
Heating Volume
Active Cooling

Optional Accessories

| Name	Material Description
Oxygen module	Zirconia O₂ 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 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 andreach ISO 5 clean room quality
Pressure reducing valve	Suitable for users with cylinder gas supply
Partition	Increase the number of samples cultured

Specifications

Model	Power Supply (V/Hz)	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-80E	220-240~50/60	80	625*684*735	400*420*490	380*300	3/8
HCP-168E	220-240~50/60	170	714*812*887	490*560*650	473/434	3/11
HCP-258E	220-240~50/60	258	794*867*985	570*610*745	550*484	3/13

Scope of Application

The solution is widely used in bacteria, fungi and other microorganisms culture; as well as enzyme digestion reaction, ligation reaction, embedded incubation and other related constant temperature experiments.

Embedded incubation

Bacteria

Fungus

HZP-168

HFP-80

Product Advantages

Personalized interface, easy to link
Equipped with USB and RS485 interfaces to meet the different needs of users to transfer data

Multiple protection benefits for increased security
Overheat protection (OPT), over current protection (FU), sensor error detection, independent temperature limit, compliance with DIN 12880 requirements and EU 3.1 safety level. Sound, light and remote alarms (optional) which guarantee experiment safety. Multiple alarms, such as over temperature alarm, high and low temperature alarm, door ajar, and sensor error alarm.

Data traceability
Data traceable up to 15 years with base storage 8GB (64GB optional) and data exportable through USB

High thermal insulation performance, energy saving and environmental protection
The unit is manufactured with aluminum foil insulation cotton, which improves the overall insulation performance and reduces energy consumption, lowering costs while also being environmentally friendly.

Fuzzy PID Control Technology

HZP-168 Natural Convection

HFP-80 Forced Convection

ASTM standard, 12 points testing

Based on PID control principle, manufactured with U-shaped 3-sided heating to achieve superior temperature control and uniformity control.

Rapid Recovery After Door Open

Rapid warming: the temperature inside the unit quickly recovers after opening the door to reduce the influence of temperature fluctuation on the sample.

The temperature rise curve to 37°C after opening the door for 30 sec at 22°C ambient temperature
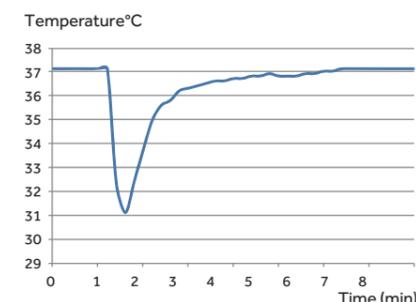
HZP-168
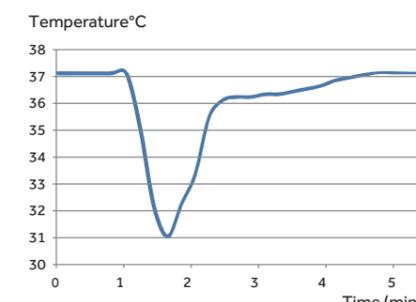
HFP-80

Convenient and Intelligent Management at a Glance

7-inch touchscreen, easy to operate and sensitive, it can respond quickly even when wearing rubber gloves.

Real-time display of temperature data, one-touch to review previous data.

Records abnormal information in real time, eliminating any hidden abnormalities which ensures the culturing is more secure.

Multiple operating modes.

The program can be edited and set at any number of segments to meet the needs of various detection tests.

Precise Temperature Control, Energy-efficient and Environment-friendly

An energy-efficient model with superior control and heating mechanisms, high-quality insulation material and cabinet structure to ensure heating requirements are met while keeping power consumption to a minimum.

Temperature (°C)

Temperature (°C)

Temperature fluctuation ±0.1°C (37°C)

Temperature uniformity ±0.5°C (37°C)

HZP-168

Temperature (°C)

Temperature (°C)

Temperature fluctuation ±0.1°C (37°C)

Temperature uniformity ±0.3°C (37°C)
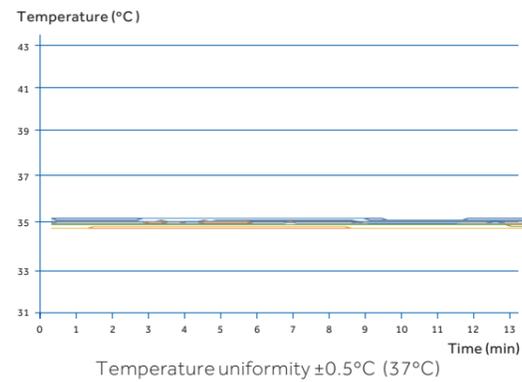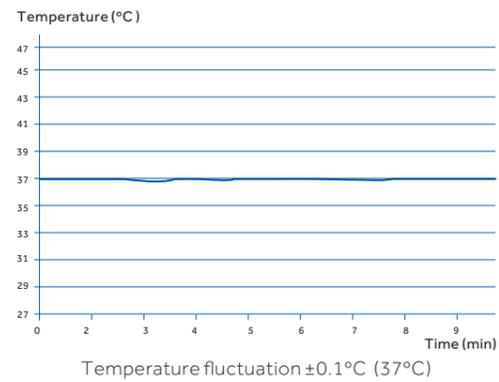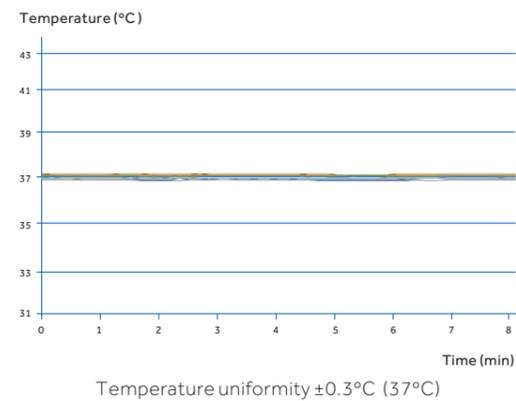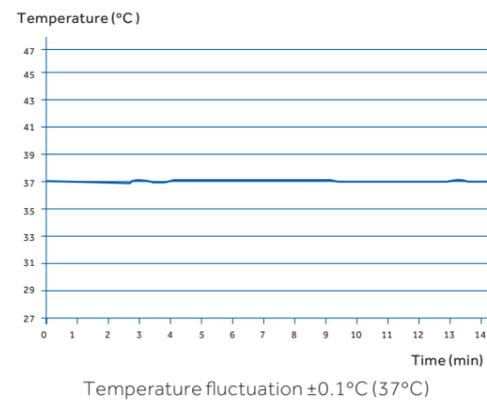
HFP-80

Optional IoT Technology for Real-time Remote Monitoring

Through the mobile app, the status of the incubator can be checked in real time, and information such as temperature alarm, sensor error alarm and door ajar can be controlled with one button, which provides more security for the experiment process.

Pictures in Details

Seamless, curved internal chamber for easy cleaning and decontamination.

Standard independent intelligent temperature safety controller to ensure experimental safety; RS485 achieves seamless IoT data connection.

Product Parameters

Model	Product Series	Capacity (L)	Power (W)	Exterior Dimensions (W*D*H)(mm)	Interior Dimensions (W*D*H)(mm)	Packing Dimensions (W*D*H)(mm)
HZP-168	Natural convection	168	640	650*782*1028	490*550*626	795*835*1220
HFP-80	Forced convection	80	510	560*662*870	400*400*480	710*760*1070

Shelves (Standard)	Temperature Control Range	Temperature Uniformity	Temperature Fluctuation (°C)	Temperature Control Precision (°C)	Recovery Time after 30 sec Door Opening (min)
2/17	RT+5~105°C	±0.5°C at 37°C	±0.1	±0.1	5
2/12	RT+5~105°C	±0.3°C at 37°C	±0.1	±0.1	2.5

Product appearance and specifications are subject to change without notice

Animal and plant tissue culture, drug stability tests, cosmetic stability tests, food shelf life tests, electronic components aging tests, packaging material stability tests.

HHS-256/756/506

Product Features

Multiple protection protocols - equipped with delay start, high/low temperature and light intensity protection in line with DIN12880 requirement for over/under temperature protection

High precision temperature sensor, dual PT1000 sensors for more accurate temperature control

Optional electromagnetic lock, suitable for multiple users with independent management for safety

Polyurethane foam insulation provides excellent thermal insulation, reducing energy consumption

Expandable large capacity data storage, the touchscreen memory can be expanded to 64GB, storing up to 15 years data which can be exported via a USB

An access port with a diameter of 35mm on the left side of the cabinet to facilitate independent testing of temperature and humidity

High insulating performance polyethene foam provides excellent insulation and stable cabinet temperatures reducing energy consumption

High precision capacitive humidity sensor

Microprocessor control system

• PID control principle, 10-inch touch screen, temperature control precision 0.1°C, humidity control precision 0.1%, temperature range 5-70°C, humidity range 10%-90%

• USB, RS485 interface as standard

• Temperature alarm, humidity alarm, door alarm, sensor alarm and water shortage warning

• Display temperature, humidity and ambient temperature; users can query the historical curve

International Quality Assurance

◉ **Accurate Temperature Control**
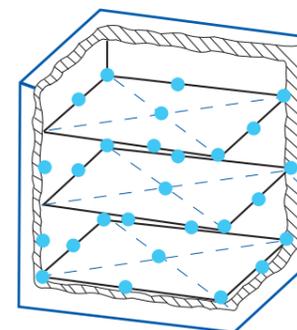
DIN12880 standard 27 test points

Central point temperature fluctuation within ±0.2°C
(ambient temperature: 22°C, setting temperature: 40°C)

27 test points temperature uniformity is ±0.5°C
(ambient temperature: 22°C, setting temperature: 40°C)

Product Advantages

Silent
Semiconductor technology ensures low vibration and noise output with no pollution into the environment

Precise control
Accurate temperature and humidity control, long-term stability, 40 °C temperature uniformity ±0.5°C and central temperature fluctuation ±0.2°C, 75% humidity fluctuation ±1%

Water-saving
Intelligent control of PTC humidification, daily water consumption of 120-320ml, no need to recycle waste water, saving space

Power saving
Semiconductor technology means the daily power consumption is as low as 5kWh; 90% more energy efficient than compressor technologies

Climate Chamber

Product Parts

10" LCD screen

Foam insulated outer door

Porthole

Toughened glass interior door

High precision humidity sensor

All internal stainless steel

Universal lock casters

Top control module

Door lock module

Semiconductor cooling duct

Top control module

The adjustable stainless steel load-bearing shelf

abinet PU foam insulation layer

**HHS-756**

Climate Chamber

⊙ Accurate Humidity Control

HHS
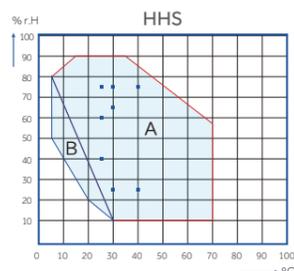
A: Stable temperature and relative humidity control range

B: Ambient temperature: lower than 22 °C, ambient humidity : lower than 40%

■ : ICH standard test points
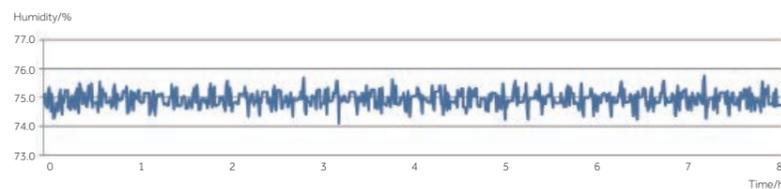
Humidity fluctuation ±1%
(setting temperature: 40°C, setting humidity: 75%.
ambient temperature: 22°C, ambient humidity: 40%)

⊙ Internal Cabinet Environment Quick Recovery System
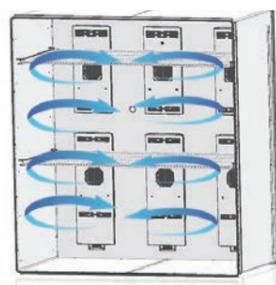
Professional air duct design, ensuring temperature and humidity uniformity
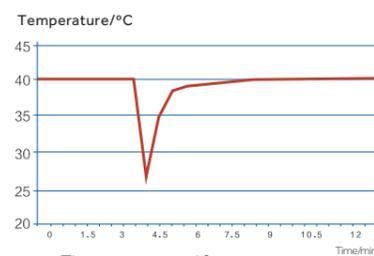
The time required for temperature to return to 40°C after 30s door opening is <4 minutes
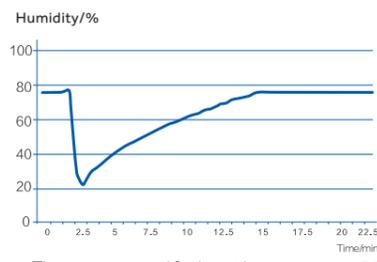
The time required for humidity recovery to 75% after opening door for 30s is <14 minutes

Intelligent Management

⊙ Convenient and intelligent management to improve working efficiency

The intelligent 10-inch touchscreen controller is easy to operate and sensitive to touch, even in rubber gloves. The PID control algorithm ensures the accuracy of temperature control

Data and multi-user authority management and permissions conforms to FDA 21 CFR Part 11

Unlimited programs with infinite humidity and temperature settings to allow users to customise to their needs

⊙ High quality manufacture and reliable operation

Capacitive humidity sensor, long-term operating reliability

- Interference-free humidity data collection.
- Long-term reliability without the need for calibration.
- High precision ±0.1%.
- Anti-condensation design for more accurate humidity monitoring

High precision temperature sensor, accurate and reliable

- Adopts PT1000 temperature sensors for accurate, stable and repeatable measurement without deviation.
- Dual sensors further improve accuracy.

Semi-conductor cooling, superior energy-saving and mute effect

- Semiconductor thermocouple consists of N-shape semiconductor and P-shape semiconductor.

⊙ Intelligent control, ensures temperature and humidity accuracy

Intelligent control PTC humidification, energy-saving and water-saving
The temperature and purity of vapour are accurately controlled by the intelligent water supply system and ceramic high-temperature heating apparatus.

Intelligent dehumidification, accurate humidity control
Semi-conductor intelligent dehumidification system accurately controls heating and cooling, matching with humidity control.

Specifications

	Model		HHS-256	HHS-506	HHS-756
Construction	Chamber Volume (L)		256L	506L	756L
	Interior Chamber		stainless steel	stainless steel	stainless steel
	Exterior Chamber		Galvanized Sheet Powder Coating	Galvanized sheet powder coating	Galvanized sheet powder coating
	Access Port		35mm Diameter	35mm Diameter	35mm Diameter
Dimensions	Net/Gross Weight	kg	175/188	225/260	280/328
	Interior Dimensions (W*D*H)	mm	650*570*700	740*570*1200	1100*570*1200
	Exterior Dimensions (W*D*H)	mm	835*905*1190	930*905*1690	1290*905*1690
	Packing Dimensions (W*D*H)	mm	1030*955*1280	1110*955*1780	1380*955*1780
Shelves	Dimension / mm (W*D)		597*531	687*531	1048*531
	Standard Qty / Max Qty		2/16	2/31	2/31
	Max Weight Per Shelf	kg	20	20	20
	Structure		Slide rail, adjustable	Slide rail, adjustable	Slide rail, adjustable
Electrical	Voltage / Frequency (V/Hz)		220-240~50/60	220-240~50/60	220-240~50/60
	Power (W)		750	1100	1760
	Day Consumption at 25°C & 40% RH (kwh)		4.6	5.4	5.6
Control	Controller		The microprocessor	The microprocessor	The microprocessor
	Display		10 "smart LCD screen	10 "smart LCD screen	10 "smart LCD screen
The Temperature Parameter	The Set Range (°C)		5~70	5~70	5~70
	Control Precision (°C)		±0.1	±0.1	±0.1
	Temperature Uniformity at 25°C		±0.2	±0.2	±0.2
	Temperature Fluctuation at 25°C		±0.1	±0.1	±0.1
	The Sensor		PT1000	PT1000	PT1000
	Rate of Temperature Rise (°C / min)		1	0.8	0.6
	30 Seconds Recovery Time After Door Opening at 40°C (min)		3	3.8	5
Humidity Parameter	Humidity Setting Range (% RH)		10~90	10~90	10~90
	Humidity Setting Accuracy (% RH)		0.1	0.1	0.1
	Humidity Fluctuation at 25°C & 40% RH (% RH)		±0.5	±0.5	±0.5
	Daily Water Consumption (ml)		120	240	320
Optional	Electromagnetic lock (password)		Y	Y	Y
	Printer		Y	Y	Y
Standard	Remote Alarm Interface		Y	Y	Y
	RS485		Y	Y	Y
	Water Level Alarm		Y	Y	Y

Product appearance and specifications are subject to change without notice

Cell Culture Scene Consumables Management

Scope of Application

In order to fully satisfy the growth, survival and reproduction of cells in vitro without pollution, the selection of consumables is very important. Haier Biomedical culture consumables meet the high-quality, full range of cell culture scenarios, is the ideal choice for cell culture, and comprehensively contributes to the development of life science. The raw materials of the consumables products meet the USP VI standard to ensure the qualification of the production of raw materials. The equipment from Germany and Japan is used to achieve a variety of non-invasive production processes of consumables. The whole process of 100,000 GMP purification workshop production, cobalt-60 irradiation sterilization, fully ensure the sterility and uniformity of products, all-round guarantee the cell growth process is safe and clean.

Cell Culture Flask

Product Features

- High quality polystyrene material, 100,000 clean workshop manufacturing
- TC treated and non-TC treated specifications can be used for cell adhesion culture and cell suspension culture
- Large mouth design for easy removal of cell suspension or digestive cells
- Two closure type to choose: One type is with septum cap, which has a 0.22μm membrane that allows sterile air exchange or a leak resistant seal, the other is with screw cap
- Product irradiation sterilization. RNase, DNase, Pyrogen and Endotoxin Free
- Scales and marking areas on both sides of the bottle

CAT.NO.	Description	Unit Quantity	Packing Specification
633017	25cm², sealed cap, wall culture, TC treatment	200	10pcs/bag, 20bags/case
634018	25cm², vented cap, wall culture, TC treatment	200	10pcs/bag, 20bags/case
633019	75cm², sealed cap, wall culture, TC treatment	100	5pcs/bag, 20bags/case
634020	75cm², vented cap, wall culture, TC treatment	100	5pcs/bag, 20bags/case
633021	175cm², sealed cap, wall culture, TC treatment	40	5pcsbag, 8bags/case
634022	175cm², vented cap, wall culture, TC treatment	40	5pcsbag, 8bags/case
633023	225cm², sealed cap, wall culture, TC treatment	25	5pcs/bag, 5bags/case
634024	225cm², vented cap, wall culture, TC treatment	25	5pcs/bag, 5bags/case
631025	25cm², sealed cap, suspension culture, untreated	200	10pcs/bag, 20bags/case
632026	25cm², vented cap, suspension culture, untreated	200	10pcs/bag, 20bags/case
631027	75cm², sealed cap, suspension culture, untreated	100	5pcs/bag, 20bags/case
632028	75cm², vented cap, suspension culture, untreated	100	5pcs/bag, 20bags/case
631029	175cm², sealed cap, suspension culture, untreated	40	5pcs/bag, 8bags/case
632030	175cm², vented cap, suspension culture, untreated	40	5pcs/bag, 8bags/case
631031	225cm², sealed cap, suspension culture, untreated	25	5pcs/bag, 5bags/case
632032	225cm², vented cap, suspension culture, untreated	25	5pcs/bag, 5bags/case

Erlenmeyer Flask

Product Features

- Two type of materials are available: PC/PETG with baffled bottom/flat bottom
- Two closure type to choose: One type is with septum cap, which has a 0.22μm membrane that allows sterile air exchange or a leak resistant seal, the other is with screw cap
- Single independent vacuum packaging, easy to use, avoid cross contamination
- Product irradiation sterilization. RNase, DNase, Pyrogen and Endotoxin Free
- The scale on the outer wall of the bottle is clear and precise, and the inner wall is smooth
- Both suspension cells and adherent cells can be cultured

CAT.NO.	Description	Unit Quantity	Packing Specification
641049	125ml, PETG, sealed cap	24	1pcs/bag, 24bags/case
641050	250ml, PETG, sealed cap	12	1pcs/bag, 12bags/case
641051	500ml, PETG, sealed cap	12	1pcs/bag, 12bags/case
641052	1000ml, PETG, sealed cap	12	1pcs/bag, 12bags/case
642053	125ml, PETG, vented cap	24	1pcs/bag, 24bags/case
642054	250ml, PETG, vented cap	12	1pcs/bag, 12bags/case
642055	500ml, PETG, vented cap	12	1pcs/bag, 12bags/case
642056	1000ml, PETG, vented cap	12	1pcs/bag, 12bags/case
643057	125ml, PC, sealed cap	24	1pcs/bag, 24bags/case
643058	250ml, PC, sealed cap	12	1pcs/bag, 12bags/case
643059	500ml, PC, sealed cap	12	1pcs/bag, 12bags/case
643060	1000ml, PC, sealed cap	12	1pcs/bag, 12bags/case
644061	125ml, PC, vented cap	24	1pcs/bag, 24bags/case
644062	250ml, PC, vented cap	12	1pcs/bag, 12bags/case
644063	500ml, PC, vented cap	12	1pcs/bag, 12bags/case
644064	1000ml, PC, vented cap	12	1pcs/bag, 12bags/case
645065	125ml, PC, sealed cap	24	1pcs/bag, 24bags/case
645066	250ml, PC, sealed cap	12	1pcs/bag, 12bags/case
645067	500ml, PC, sealed cap	12	1pcs/bag, 12bags/case
645068	1000ml, PC, sealed cap	12	1pcs/bag, 12bags/case
646069	125ml, PC, vented cap	24	1pcs/bag, 24bags/case
646070	250ml, PC, vented cap	12	1pcs/bag, 12bags/case
646071	500ml, PC, vented cap	12	1pcs/bag, 12bags/case
646072	1000ml, PC, vented cap	12	1pcs/bag, 12bags/case

Cell Culture Plate

Product Features

- A wide range of sizes, materials and shapes to suit different experimental needs of the laboratory
- There are TC treated and non-TC treated options which is suitable for cell suspension culture and cell adhesion culture
- Sterile, no enzyme, no heat source and endotoxin, individually packed to ensure the stability of the experimental results
- High transparency polystyrene material can be used for microscope observation
- Raised edge on wells to prevent cross contamination
- The left side and the upper side have alphanumeric labels, easy to distinguish and identify, easy to record
- Suitable for most plate readers and automated equipment

CAT.NO.	Description	Unit Quantity	Packing Specification
612001	96-well, blister box/F-bottom (flat bottom), TC treatment, wall culture	100	1pcs/bag, 100bags/case
612002	48-well, blister box/F-bottom (flat bottom), TC treatment, wall culture	100	1pcs/bag, 100bags/case
612003	24-well, blister box/F-bottom (flat bottom), TC treatment, wall culture	100	1pcs/bag, 100bags/case
612004	12-well, blister box/F-bottom (flat bottom), TC treatment, wall culture	100	1pcs/bag, 100bags/case
612005	6-well, blister box/F-bottom (flat bottom), TC treatment, wall culture	100	1pcs/bag, 100bags/case
611006	96-well, blister box/F-bottom (flat bottom), untreated, suspension culture	100	1pcs/bag, 100bags/case
611007	48-well, blister box/F-bottom (flat bottom), untreated, suspension culture	100	1pcs/bag, 100bags/case
611008	24-well, blister box/F-bottom (flat bottom), untreated, suspension culture	100	1pcs/bag, 100bags/case
611009	12-well, blister box/F-bottom (flat bottom), untreated, suspension culture	100	1pcs/bag, 100bags/case
611010	6-well, blister box/F-bottom (flat bottom), untreated, suspension culture	100	1pcs/bag, 100bags/case

Cell Culture Dish

Product Features

- Assorted sizes, styles and surface finishes for different culture requirements
- Designed with raised edges, easy to stack and transport
- Polystyrene material, surface treatment, suitable for cell adhesion growth
- Vents designed to maintain gas exchange under sterile conditions
- Sterile, Enzyme, Pyrogen and Endotoxin Free, individual packaging, to ensure the stability of the experimental results

| CAT.NO.	Description	Unit Quantity	Packing Specification
622011	6cm, plastic sealed bag/easy grip, TC treated, wall culture	500	10pcs/bag, 50bags/case
622012	10cm, plastic sealed bag/easy grip, TC treated, wall culture	300	10pcs/bag, 30bags/case
622013	15cm, plastic sealed bag/easy grip, TC treatment, wall culture	100	5pcs/bag, 20bags/case
621014	6cm, plastic sealed bag/easy grip, untreated, suspension culture	500	10pcs/bag, 50bags/case
621015	10cm, plastic sealed bag/easy grip, untreated, suspension culture	300	10pcs/bag, 30bags/case
621016	15cm, plastic sealed bag/easy grip, untreated, suspension culture	100	5pcs/bag, 20bags/case

Serological Pipette

Product Features

- Multiple volume sizes available, different color rings on the tube head for easy identification of different models
- Bi-directional scale design for easy reading of pipette volume, negative scale increases pipette capacity for larger volumes
- Clear and accurate scale with a precision of ±2% of total volume
- Filter cartridge prevents samples, aerosols and water vapor from entering the pipette to avoid cross-contamination
- Adaptable to a wide range of pipettes on the market with rubber adapters
- Multiple packaging options, easy-tear paper-plastic single packs as well as large packs for easy batch use and reduced packaging waste
- Irradiated, meet SAL 10^{-6}, DNase/RNase free, no pyrogenic endotoxin

CAT.NO.	Description	Unit Quantity	Packing Specification
692109	1ml (yellow) disposable serum pipette, sterile	1000	50pcs/bag, 20bags/box
692110	2ml (green) disposable serum pipettes, sterile	1000	50pcs/bag, 20bags/box
692111	5ml (blue) disposable serum pipettes, sterile	500	50pcs/bag, 10bags/case
692112	10ml (orange) disposable serum pipettes, sterile	500	50pcs/bag, 10bags/case
692113	25ml (red) disposable serum pipettes, sterile	250	25pcs/bag, 10bags/case
692114	50ml (violet) disposable serum pipettes, sterile	200	25pcs/bag, 8bags/case
692115	100ml (black) disposable serum pipettes, sterile	120	20pcs/bag, 6bags/case

Pipette Series

Centrifuge Tube Series

Pasteur Pipette

Microcentrifuge Tubes
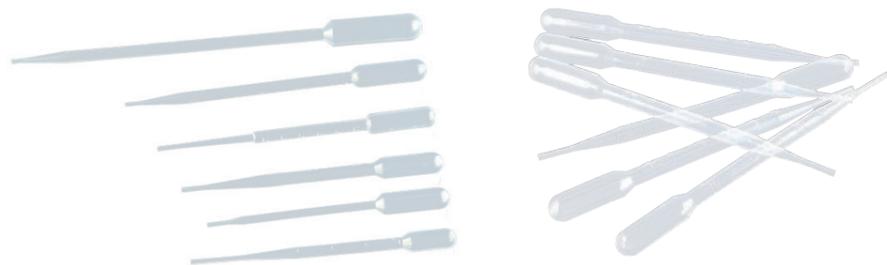
Product Features

- Good fluidity of the tube wall, easy to control the pipetting volume during operation
- High transparency, clear scale, easy to observe the pipetting process in real time
- Made of high quality material, it can be used for pipetting liquids in all kinds of containers
- Individual packages, easy to use, well sealed, reproducible pipetting
- Each package is individually labeled with a lot number for quality tracking and traceability
- Enzymatic, Pyrogenic, Endotoxic, Cytotoxic and Hemolytic Free
- EO sterilized to ensure contamination-free experiments

Product Features

- Made of USP Class VI, medical-grade polypropylene (PP), free from release agent, plasticizer, bacteriostatic agent, and heavy metals
- High-clarity tube for convenient sample observation
- The unique cap design with flat surface for writing, delivers enhanced sealing and enables single-handed operation
- Temperature range: -80°C~120°C

Ultra-high clarity makes samples clearly visible
Universal design suitable for all major brands

Frosted writing area

Snap-on safety cap to ensure safe centrifugation to maximize operational safety during centrifugation

CAT.NO.	Description	Unit Quantity	Packing Specification
603001	Total volume 1.5m. Each 0.1ml scale to 0.3ml, length 116mm, about 23 drops/ml, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603002	Total volume 3ml. Every 1/4ml scale to 1ml, length 140mm, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603003	Total volume 5ml. Every 1/4 ml scale to 1 ml, length 145 mm, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603004	Total volume 5ml. Every 1/4ml scale to 1ml, length 150mm, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603005	Total volume 5ml. Every 1/2ml scale to 2ml, length 155mm, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603006	Total volume 7ml. Every 1/2ml scale to 3ml, length 155mm, E.O. sterile, LDPE material	1000	Plastic pack, 100pcs/ box, 1,000pcs/case
603007	Total volume 7.5ml. Every 1/2ml scale to 3ml, length 148mm, approx. 23 drops/ml, E.O. sterile, LDPE	1000	Plastic pack, 100pcs/ box, 1,000pcs/case

CAT.NO.	Description	Unit Quantity	Packing Specification
311001	0.6ml microcentrifuge tube, non-sterile	10000	1000pcs/box, 10box/ctn
311002	1.5ml microcentrifuge tube, non-sterile	5000	500/box, 10boxes/case
311004	2.0ml microcentrifuge tube, non-sterile	5000	500/box, 10boxes/case