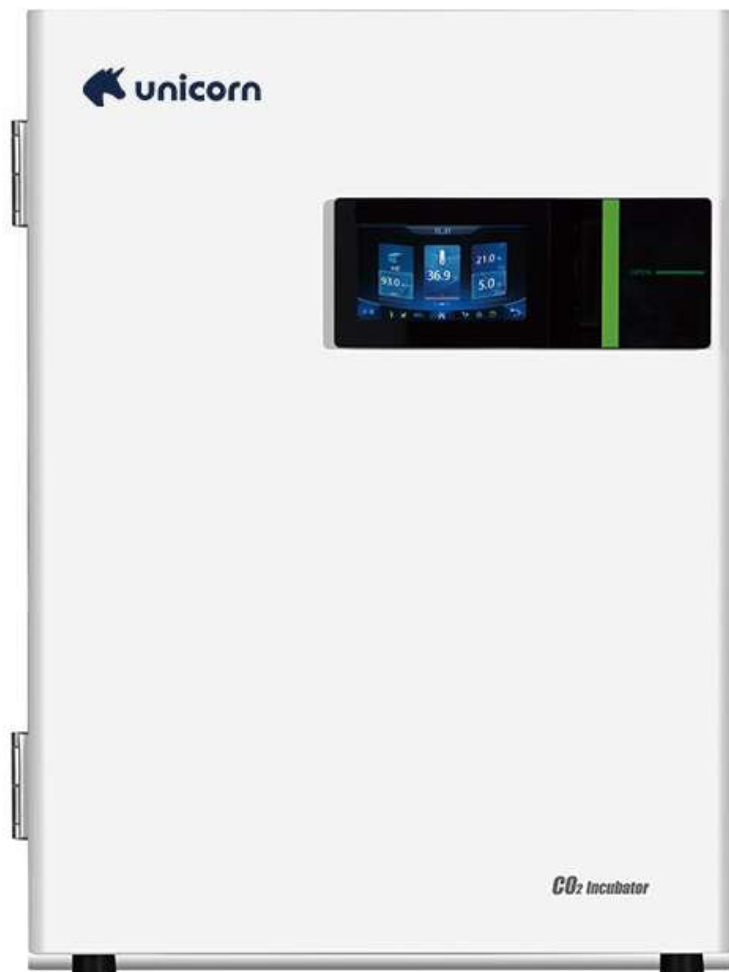


CO₂ Incubator



Features

CO₂ incubators are designed to protect valuable samples while optimizing cell growth.

LCD touch screen

- Easy to observe and operate

Access port

- Monitor the temperature, RH and CO₂ concentration data in the chamber

Intergrated humidity pan

- Built-in design
3L storage capacity



Inner glass door

- Convenient to observe the cell state during culturing activity in the chamber

HEPA air filtration

- Provide ISO Class 5 clean room-like air quality conditions within only five minutes after a 30-second door opening



Shelves

- Stainless steel
- Anti-drop limit
- Push-pull design
- Perforated shelves for optimizing air flow

One-piece chamber

- Polished stainless steel interiors
- Easy-to-clean covered corners

Built-in drain

- CPC type interface
- Fast drainage
- No need open the door while refilling water

Quick response CO₂ Sensor

- IR CO₂ sensor
- No disassembly while sterilizing
- Reliable gas control
- No calibration required

Fan-assisted air circulation

- Easy clean
- Rapid recovery
- Enhance the uniformity of temperature, gas exchange and humidity

Magnetic inner door latch

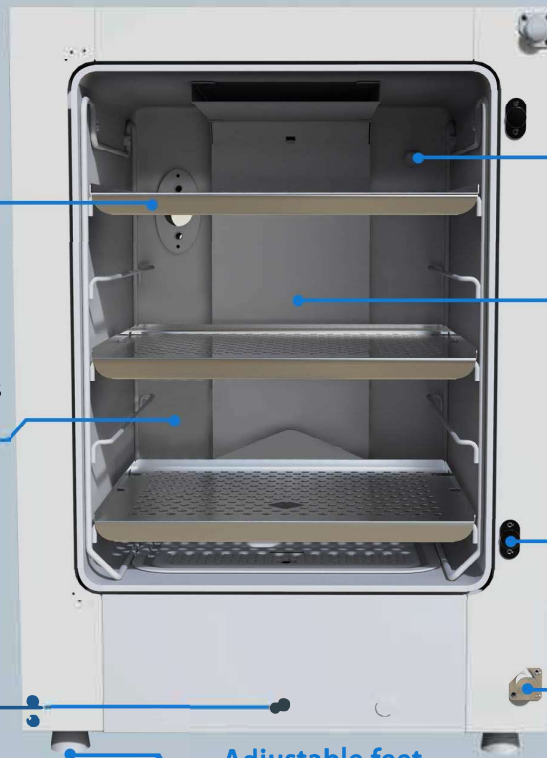
- Ergonomic Design

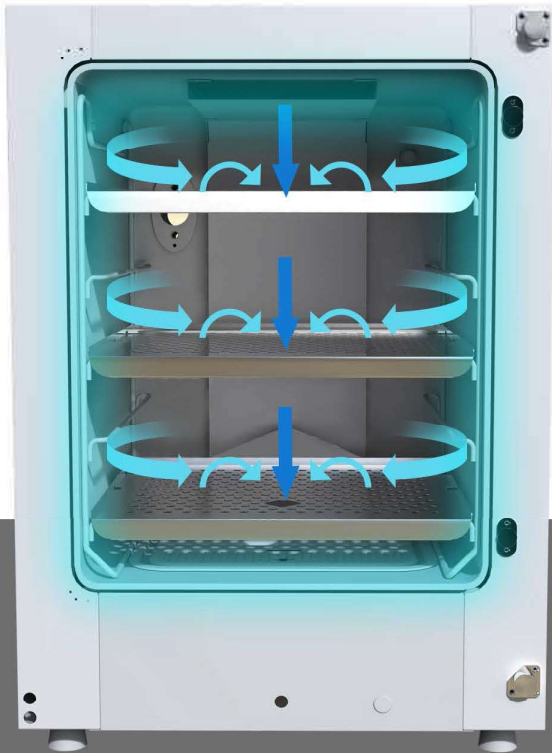
Magnetic outer door latch

- Easy open/close

Adjustable feet

- Ensure the incubator can be placed steadily

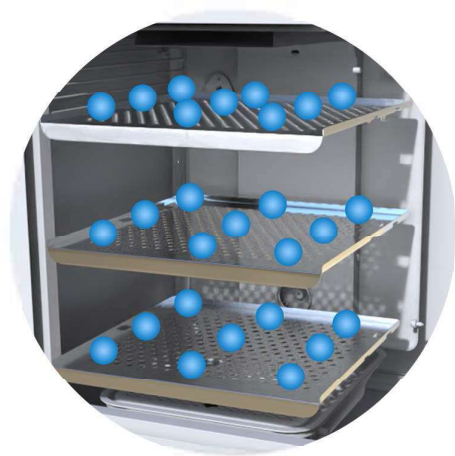




Thrive active airflow

For advanced uniformity and recovery, our airflow patterns are specifically designed for outstanding distribution of critical environmental conditions (temperature, gas exchange and humidity). Forced-air fan gently and evenly distributes clean, humidified air throughout the chamber ensuring all cells experience the same conditions without the threat of desiccation. Temperature and gas sensors are placed in the chamber to ensure the detected temperature and gas are in the same conditions. Internal chamber is equipped with HEPA filter for continuous air filtration every 60 seconds

Automatic air volume regulation
More efficient and accurate control
of temperature, humidity, CO₂
concentration, and cleanliness

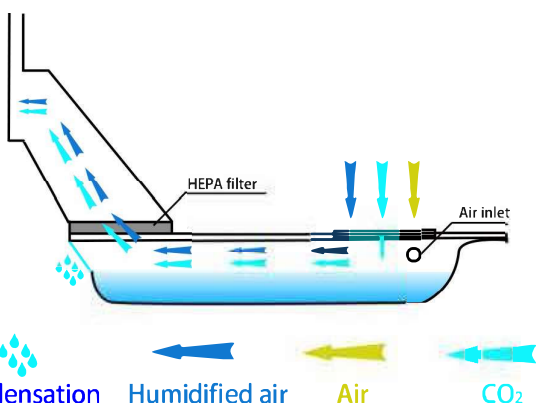


Test points layout

CO₂ incubators use multiple PT100

sensors with advanced PID algorithm to precisely control the temperature inside the chamber.

Test method based on 27 test points in the chamber, the 27 test points have tiny temperature difference.



The humidification and inflation design of the independent area brings humidified air and CO₂ into the chamber through the circulation system, which can effectively prevent the partial humidity and gas concentration from being too high.

Advanced control technology of condensate water control can effectively reduce the condensate water in the chamber.

Controller

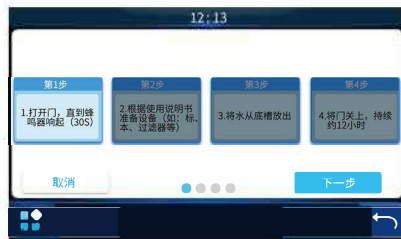


The touch screen is responsive, easy to operate. accurate and informative. Working language is switchable between English and Chinese

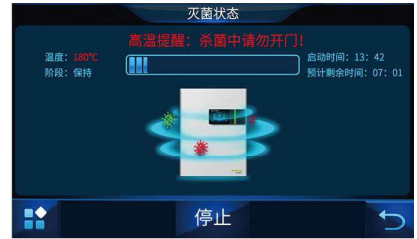
Features



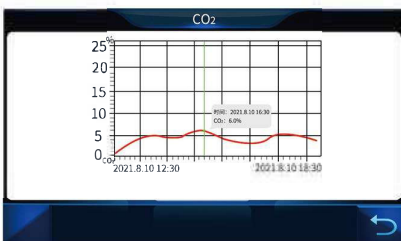
CO₂ adjustment



Sterilization guidance



Sterilization working progress



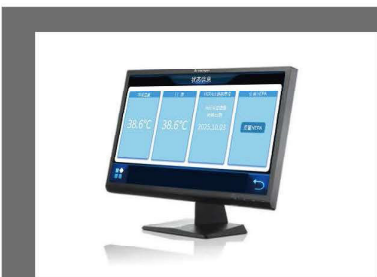
CO₂ historical curve

日期	事件类型	时间	操作
21.8.3	11:12	设定CO ₂ 更改值	温度实际值计算
21.8.3	11:12	设定CO ₂ 更改值	设定CO ₂ 更改值
21.8.3	11:12	设定CO ₂ 更改值	设定CO ₂ 更改值
21.8.3	11:12	设定CO ₂ 更改值	设定CO ₂ 更改值

Traceable events

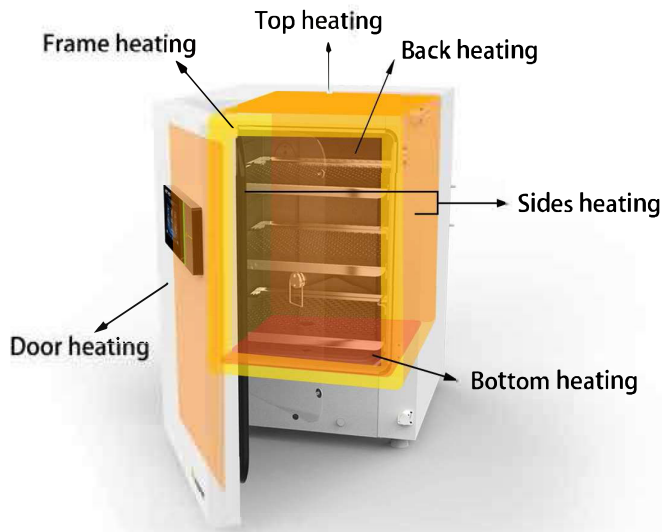


Clear operation



Remote monitoring & data logging

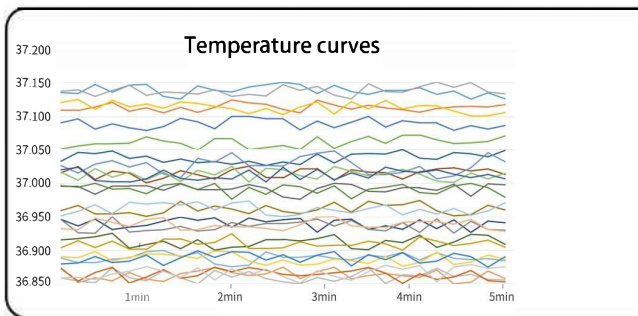
Optional monitoring system for remote monitoring of events, alarms, incubator conditions and customized tasks.



Direct Heat & Air-jacketed

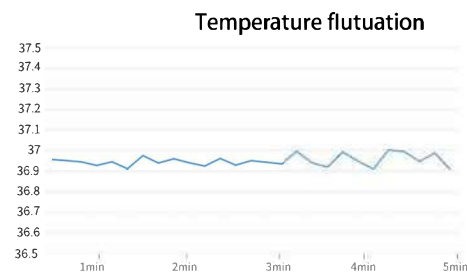
- Rapid temperature recovery in the chamber and reduce ambient temperature interference.
- 9 heating units in 4 temperature control zones are intelligently controlled by microprocessors to ensure temperature uniformity and minimum fluctuation in the chamber .

Precise control of temperature



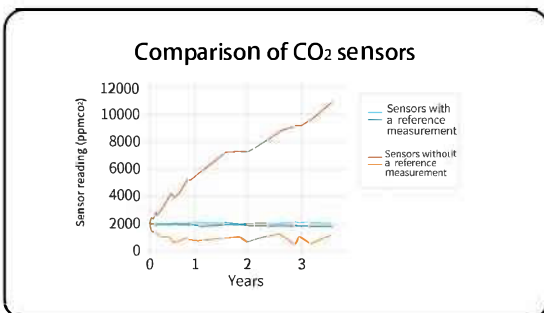
- Test points uniformity $< \pm 0.3^{\circ}\text{C}$.

Uniformity & Fluctuation

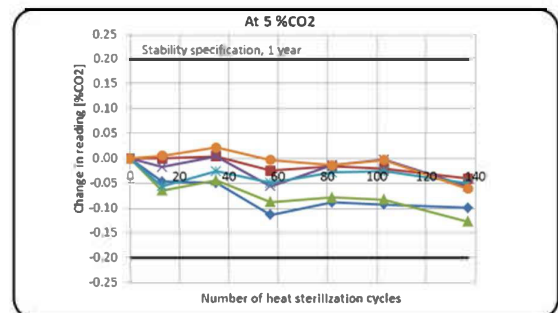


- Controlled within $\pm 0.1^{\circ}\text{C}$

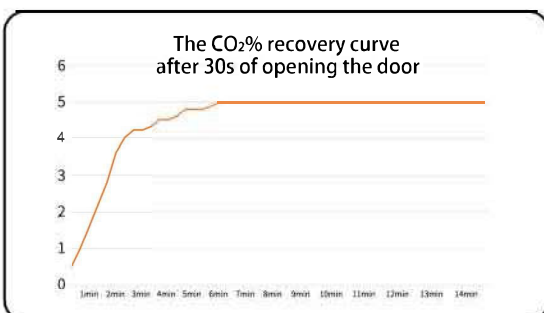
Precise control of CO₂ %



Sensor stability



Single-beam dual-wavelength VS single-beam single-wavelength



The recovery of CO₂% is less than 5 minutes

CO₂ sensor stability in High-Temperature Cycles

Rapid recovery of CO₂ without Overshoot

Accurate&fast-response CO₂ sensor , advanced microprocessor -controlled intake valve and independently controlled heating system to achieve no overshoot, ensuring rapid gas circulation after opening and closing the door, making theCO₂ concentration recovered quickly and remained constant.

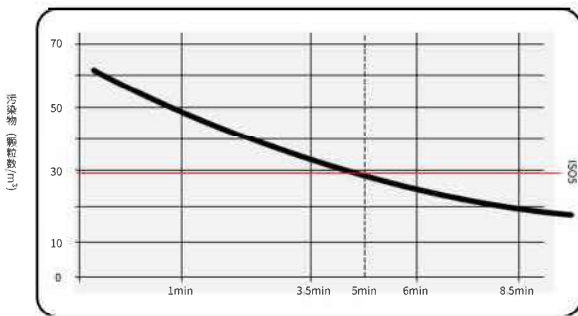
(It can be seen from the graph that overshoot is not appeared during the recovery of the CO₂ % when opening the door, and the door opening time has little effect on the recovery time)

Cleanliness guaranteed



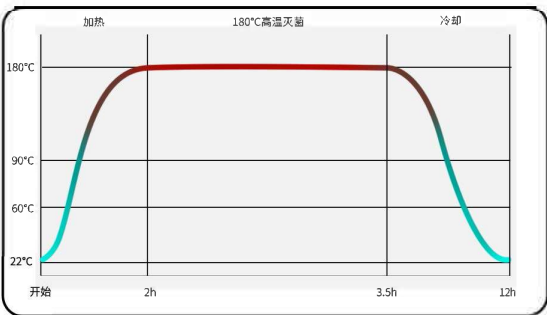
Complete contamination control

- All gases entering the incubator are filtered through a 0.2 μm filter to remove airborne biological and particulate contaminants.
- The gas filter is easily replaceable on site.



HEPA air filtration for air purity

- In-chamber HEPA airflow system filters entire chamber with ISO Class 5 (Class 100) cleanroom air quality within five minutes after door opening.
- The particle retention efficiency of the HEPA filter is up 99.995%.



Cyclic high temperature sterilization

- 180°C dry heat cycle sterilization.
- The complete process of sterilization takes 12 hours only.
- No need to take out any accessories during sterilization except HEPA

Safety guaranteed



Water Level Sensor

Sensitive warning of water level status
Low water level alarm

- Operation record
- Ambient temp. alarm
- Chamber temp. alarm
- CO₂ % alarm
- Low water level alarm
- Door ajar alarm
- Shortage alarm
- HEPA expiration alarm

CellXllent-170 Parameters

<u>Temperature</u>	
Type	Direct Heat & Air Jacketed
Range	3°C above ambient to 55°C
Uniformity	≤±0.3°C *
Accuracy	< ±0.1°C
Recovery	< 10mins
Ambient	18-34°C
<u>CO₂</u>	
Controller	PID microcomputer
Range	0-20%
Accuracy	±0.1%
Sensor	IR
Recovery**	≤5mins
Sterilization	180°C dry heat
<u>Humidity</u>	
Model	Integrated pan
rH%	91% @ low rH mode, 94% @ High rH mode
Recovery	15mins
<u>O₂ (Optional tri-gas type)</u>	
Controller	PID microcomputer
Range	1 ~ 20.7%
Accuracy	±1%
Sensor	Zirconia
Recovery	O ₂ % @ 1.0%: 24mins O ₂ % @ 5.0%: 10mins

* China YY1621-2018 standard

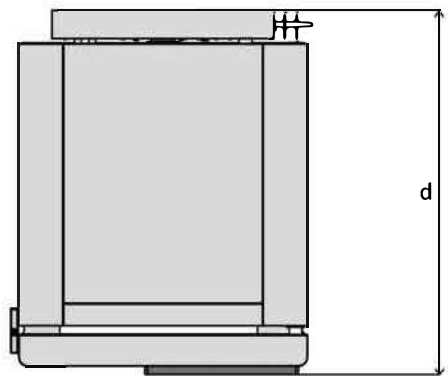
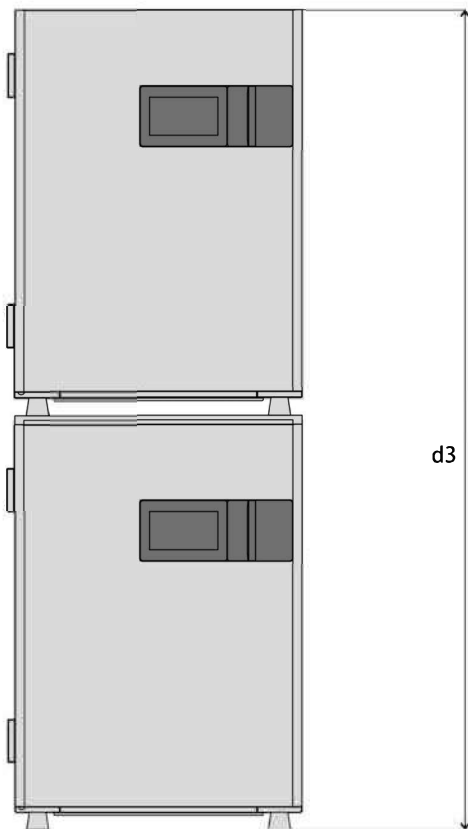
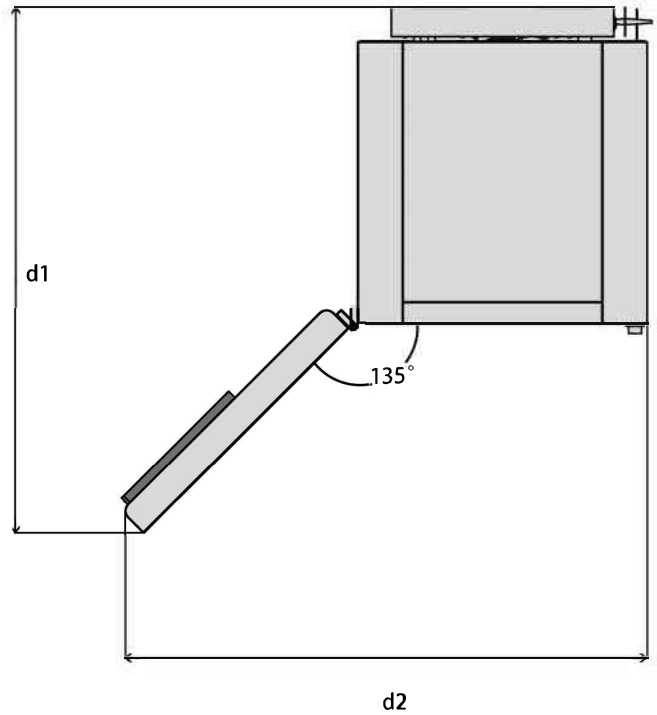
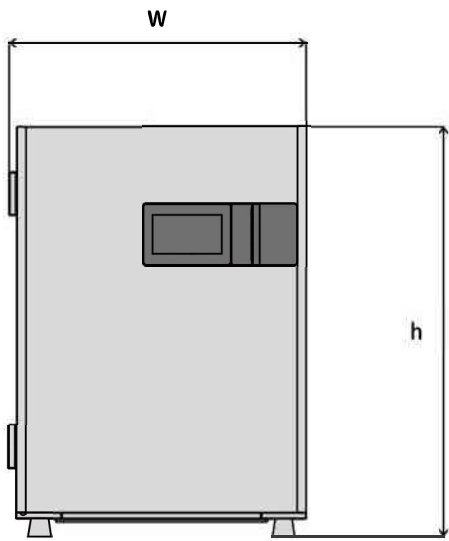
** Door open for 30s. The recovery rate is calculated according to the initial value of temperature and CO₂%, O₂% and rH 98%

<u>Specifications</u>	
Capacity	170 L
External dimension(W*D*H)	670*825*920mm
Internal dimension(W"D*H)	490.5*560*620.5mm
Shelf Qty(standard)	3
Max shelf Qty	Up to 7 optional
Shelf dimension(W*D mm)	450*485(Big) 450*440(small)
Max loading of each shelf	12kg
Power supply	220V AC
Max.power	1000W
Stable power	42W
Internal construction	Polished Stainless Steel
<u>Optional Asseccories</u>	
rH sensor	1 pc
O ₂ sensor	1 pc
Extra shelves	4 pc
Stacking bracket	1 pc
<u>Alarm and reminder</u>	
Alarms	Ambient temp., rH%, CO ₂ %, Water level, O ₂ % (optional)
Reminder	HEPA filter expiration, Shortage of gas
<u>Cleanliness (Standard)</u>	
Sterilization	1) 180°C dry heat 2) 0.2 um filter 3) HEPA filter

(*In-chamber HEPA filter one piece as standard, can offer extra as spares)

Note: Product Warranty time is 24 months after delivery.

Dimensions



Width	667.5mm
Height	921.5mm
Depth	821.7mm

Width (w)	667.5mm
Height (h)	921.5mm
Depth (d)	821.7mm
Door depth (d1)	1182mm
Door width (d2)	1172mm
Stacking height (d3)	1863mm

Catalog 2025



Shanghai Unicorn Medical Technology Co., Ltd.

Room J, Building 4, B Zone, No. 925 Yecheng Road, Jiading Industrial Area, Shanghai

Tel: +86 (021) 6082 8473 Cel: +86 17317108636 Email: info@unicornlifescience.com

www.unicornlifescience.com

Information is subject to change and/or updating without notice

@ Unicorn. LIFE-CO2INCUB-EN-202208