CO2 incubator with 180°C dry heat sterilization system

Carbon dioxide incubator is a kind of experimental equipment designed for cell, tissue and microorganism cultivation, aiming to simulate the growth environment of organisms, and provide constant temperature, humidity, carbon dioxide concentration and suitable pH value for in vitro cultivation.

CO2 Incubator

CO2 incubator is widely used in immunology, oncology, genetics, virology and other biomedical fields for cell dynamics research, antigen and antibody production and drug screening and other scientific research projects.

Main Features of CO2 Incubator

1. high quality materials: the inner liner is made of 304 mirror stainless steel, which is seamlessly welded and electrolytic polished, and the four corners are rounded shape is easy to clean, avoiding dead corners, which is in line with the hygienic requirements of the laboratory.
2. double-door design: the outer door has a heating function to prevent water vapor condensation, the inner door is a high-quality tempered glass, able to directly observe the state of the samples in the box, the inner door opens automatically shut down the fan and stop the heating and gas supply, to ensure that the concentration of CO2 and the temperature is not subject to external interference.

3. humidity control: the bottom of the reservoir design, directly add water and through the bottom of the heating and precise control of humidity, to provide rapid humidity recovery, suitable for high humidity environment of the sample culture.
4. filtration system: equipped with a high-efficiency air inlet filter, filtering particles with a diameter greater than 0.2um, with a filtration efficiency of up to 99.99%, to ensure a clean air source, and can be easily replaced outside the device.
5. intelligent control system: equipped with a 7-inch high-definition full-color touch screen, support for Chinese and English operating interface, with password lock function and sound, visual alarm, the user can easily monitor the operation of the equipment, the screen menu has a clear prompt.
6. PID control system: six-side direct heat system and fan intelligent regulation, the temperature is evenly distributed to avoid cell dehydration, enhance the temperature recovery speed to ensure a stable culture environment.
7. Convection type: with fan forced air convection.

Advantages of CO2 Incubator

1. Precise temperature and humidity control: PID intelligent control technology makes the temperature and humidity regulation more precise and stable, suitable for long-term cell culture and high-demand experimental environment.

2. pollution-free operation: 180°C high temperature dry heat sterilization function can be fully sterilized, the sensor and other components do not need to be disassembled, avoiding the risk of secondary pollution.
3. high efficiency filtration and clean environment: built-in HEPA high efficiency filter can effectively filter the air bacteria and dust particles, to ensure that the incubator to maintain a sterile state, and in the high temperature sterilization mode, the box door can be closed 5 minutes after the rapid return to the clean level.
4. intelligent management and data traceability: support for historical data view and operating curve records, 1 million data storage capacity, the data can not be changed, to facilitate laboratory managers to conduct experiments traceability and audit.
5. safety protection system: equipment with temperature, CO2 concentration upper limit and lower limit alarm function, water shortage alarm, open the door alarm, sensor failure alarm and other multiple safety functions, to effectively avoid accidents in the experimental process.

Working Principle

Carbon dioxide incubator accurately adjusts the temperature and humidity through the built-in PID control system, together with the efficient CO2 concentration sensor and the imported infrared double-beam technology, it monitors the environmental conditions inside the incubator in real time. The six-surface direct heat system of the CO2 incubator ensures uniform heating on every surface, and the fan speed is automatically adjusted to avoid turbulence, thus enhancing temperature uniformity and recovery speed. In terms of humidity control, continuous humidity support is provided through the bottom reservoir design and heating control to ensure a suitable environment for sample culture.

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Model	**CB10**	**CB20**
Volume	170L	270L
Control Method	PID	
Convection type	with fan forced air convection	
Heating Method	Six-Sided Direct Heating, Air Jacketed	
Temperature Control Range	ambient+5°C to 60°C	
Temperature Accuracy	±0.1°C	
Temperature Uniformity	⩽0.3°C	
CO2 Sensor	Infrared Sensor	
CO2 Control Range	0 to 20%	
CO2 Control Accuracy	0.1%	
CO2 Supply Pressure	Recommended pressure regulator setting 0.05MPa	

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Model	**CB10**	**CB20**
Humidification Method	Reservoir type, independent heating unit with humidity compensation	
Relative Humidity	90%RH to 97%RH	
Sterilization Method	180°C dry heat sterilization, with optional 90°C moist heat sterilization upgrade	
Temperature Recovery Time	≤5 minutes	
CO2 Concentration Recovery Time	≤5 minutes	
Data Export Interface	USB	
Data Logging Interval	30 seconds to 9999 seconds	
Historical Data Storage	1 million records	
Number of Segments per Program	5	
Timer Range	1 minute to 999 hours 59 minutes	

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Model	**CB10**	**CB20**
Stainless Steel Shelves	Standard with 2 layers, expandable	
Power Supply	230Vac, 50Hz, 60Hz	
Power	900W	1200W
Internal Chamber Dimensions	500x530x650mm	570x630x760mm
External Dimensions	670x770x860mm	740x840x940mm
Note	Models with optional UV sterilization available, CB10UV, CB20UV	