

incubator shaker with optional humidity and light functions

This incubator shaker is a cultivation device for biological culture before entering fermentation culture, widely used in microbial cell fermentation, animal cell and plant cell culture.

Incubator Shaker

Incubator shaker has a good application scenario for microbial cultivation, strain or cell system screening in biomedicine, food development and bio-agricultural environmental treatment, etc. It can also be used for bacterial culture, animal and plant cell culture, hybridization and biochemical reaction and enzyme reaction research with high requirements on temperature, oxygen supply, shear and so on.

Cell growth has high requirements on the culture environment, such as temperature, carbon dioxide concentration, shear, medium concentration and so on. The long biological cycle of animal cells places very high demands on the continuity, stability and reliability of the culture conditions in operation.



Features

- 1, three major systems: fingerprint password identification electronic door system, cell phone skype system, data wireless transmission and acquisition system.
- 2, Six functions: constant temperature, oscillation, constant humidity, light, carbon dioxide, OD value.
- 3, Self-insulated polyurethane shell, good heat preservation, strengthen the sealing performance of the box, improve the stability and safety of operation.
- 4, the temperature reaches 140 °C sterilization humidifier, cavity sterilization more thoroughly, humidification effect is good.
- 5, ultraviolet sterilization combined with circulating fan, in the air duct to achieve high efficiency of ultraviolet sterilization of circulating air.
- 6, Conductive flushing channel, easy to flush in time to avoid bacterial contamination.
- 7, Removable tray, easy to use.
- 8, Green sticky board. Good adhesion and stability, space saving, easy to clean and maintain.



Basic Function

- 1, the amplitude of 12.5 mm, 25 mm, 50 mm three gears can be selected, speed 30rpm to 300rpm, control temperature range 4 °C to 60 °C.
- 2, single-axis suspension slide bar three-drive self-balancing drive unit, long continuous working time, less energy consumption, can withstand unbalanced loads.
- 3, high stability, in the process of starting, running and stopping can maintain stability.
- 4, inside and outside the air continuous circulation, to ensure that in the process of cultivation, there is sufficient air replenishment, to ensure uniform temperature, so that there is no temperature dead zone in the box.
- 5, over-temperature alarm function: when the actual measured temperature exceeds the alarm set temperature value, the instrument alarm. When the actual measured temperature exceeds the power-off set temperature value, the heating system stops heating.
- 6, overspeed alarm function: when the actual measured speed exceeds the alarm set speed, the instrument alarm. When the actual measured rotational speed exceeds the upper limit of rotational speed, the oscillation platform stops oscillating.

Optional Constant Humidity Function

- 1, humidity control range 40% to 90% relative humidity, precision $\pm 5\%$.
- 2, the use of metal module cavity evaporation technology, small size, high efficiency, fast response.
- 3, multi-channel design within the cavity, the formation of a heating evaporation, secondary high-temperature disinfection, three compression and pressurization of the humidification technology, the formation of up to 140 °C fully atomized steam rapid jet, uniform diffusion, humidity distribution is very uniform.

Optional Light Culture Function

- 1, daylight light system, simulating day and night light environment.
- 2, LED different light wave combination system: the wavelength is mainly concentrated in the red-orange light and blue-violet light band region, mainly applied to the cultivation of photosynthetic organisms.

Optional Carbon Dioxide Culture Function

- 1, carbon dioxide concentration range: 0 to 20%
- 2, Control precision: $\pm 0.2\%$ at 5% concentration.
- 3, Display accuracy: $\pm 0.1\%$.
- 4, Control mode: PID.
- 5, It can automatically switch the carbon dioxide gas supply cylinder.

Other Optional Functions

- 1, cell phone text message alarm and other cell phone interconnection function.
- 2, Data wireless transmission acquisition system, which can conveniently record the running data of the instrument and detect the running status of the thermostatic oscillator in real time.

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Model	SZ225
Display screen	TFT Touch Screen
Control method	PID
Air circulation method	forced convection
Oscillation mode	orbital
Environmental temperature	5°C to 35°C
Number of stackable placements	3
Air circulation	360 cubic meter per hour
Curve Programming Settings	Repeat, Step, Temperature Step, Curve Programming Settings: 10, 20

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Model	SZ225
	segments per step, 9999 minutes per time period
Timer	0 to 9999 minutes
Temperature control range	+4°C to +60°C
Temperature resolution	0.1°C
Temperature accuracy	±0.1°C
Temperature uniformity	±0.2°C at 37°C
Shaking speed	30 to 300rpm
Speed increments	1rpm
Shaking orbit	0 to 50mm, adjustable
Average illumination	more than 300lux
Ultraviolet intensity	more than 400mW per cubic meter

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Model	SZ225
Safety function	Alarms for exceeding upper and lower temperature limits, speed and humidity alarms, sensor fault alarms, leakage, overcurrent trip protection, chiller overload protection, door opening protection.
Other Functions	Lighting system, automatic shutdown, automatic startup, temperature and humidity correction, monitoring timer, clock display, power failure recovery, parameter storage, parameter encryption and expandable RS485 interface
Cooling function	air-cooled, R134a
Number of oscillating platform	1
Platform dimensions	850x450mm
Platform numbers	1
Tray	sticky tray, 8 pieces per unit
Volume	225L

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Model	SZ225
Number of triangular flasks for platform	40x250ml or 26x500ml or 15x1L or 11x2L or 8x3L or 5x5L
Number of triangular flasks for tray	50x250ml or 38x500ml or 18x1L or 11x2L or 8x3L or 6x5L
Internal dimensions	937x572x420mm
External dimensions	one unit 1320x940x910mm, two unit 1320x940x1500mm, three unit 1320x940x1925mm
Power	1200w
Power supply	220Vac, 50/60Hz
Weight	200kg
The following features are optional	
Humidity control range	40%RH to 90%RH

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Model	SZ225
Humidity control accuracy	2%RH to 3%RH
Humidity uniformity	≤ 2%RH
Carbon dioxide sensor	infrared sensor
Carbon dioxide control range	0 to 20%
Carbon dioxide control accuracy	0.2% at 5%
Carbon dioxide display accuracy	0.1%
CO2 recovery rate	1 minute after opening the door, less than 10 minutes
Light source	Led light, red 50%, blue 50%
Wavelength of light	Red light: 615nm to 650nm, Blue light: 450nm to 480nm, White light: 450nm to 465nm
Light intensity, fluorescent	10000Lux, measured at a distance of 10 cm

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Model	SZ225
Light intensity, grow lights	Red:6500Lux, Blue:6500Lux, measured at a distance of 10 cm
Light ratio and intensity control	Red light, blue light independently controlled, intensity adjustable from 0 to 100% in 1% steps