mini thermal cycler with temperature range 0.1°C to 99.9°C

The Mini Thermal Cycler is a PCR device that combines high performance and compact design, developed to meet the precise temperature control needs of modern molecular biology laboratories.

The Mini Thermal Cycler provides researchers with a stable and reliable environment for DNA amplification, and at the same time, because of its compact size, it is very suitable for experimental environments with limited space.

Main Features of the Mini Thermal Cycler

1. temperature change: the temperature rise and fall speed is up to 5°C per second, which greatly shortens the PCR cycle time and improves the experimental efficiency.
2. uniform temperature distribution: optimized temperature control system to ensure that the temperature difference between the reaction wells is small, the experimental results are more stable and consistent.

3. high-quality imported components: the use of long life, excellent performance of the Peltier components and accurate temperature sensors, to ensure that the instrument is durable.
4. lightweight and compact design: compact structure, easy to move and place, saving valuable space on the experimental table.
5. scientific heat dissipation program: forward and rear air outlet design, effectively keep the equipment at low temperatures, support multiple instruments placed side by side does not affect the heat dissipation.
6. high-definition color touch screen: 7-inch TFT touch screen, the interface is intuitive and easy to operate, support real-time data display and program adjustment.
7. intelligent lever-type thermal cover: automatic locking pressure, to ensure that the thermal cover and the reaction plate in close contact with the sample to prevent evaporation, to ensure the efficiency of temperature transfer.

Advantages

1. accelerate the progress of the experiment: high-speed temperature control to shorten the amplification cycle, to meet the demand for high throughput.
2. Improve data reliability: strong temperature uniformity significantly reduces experimental errors and false positives.

3. Operation humanization: touch interface is friendly, lowering the threshold of operation, even novice can quickly master.
4. space-saving: compact body design, suitable for laboratory space is limited or the need for multiple parallel occasions.
5. low maintenance costs: core components imported and modular design, reducing the failure rate and maintenance frequency.
6. more comprehensive sample protection: hot cover intelligent pressure control, to avoid changes in sample concentration due to evaporation.

Working Principle

Mini Thermal Cycler realizes precise temperature control of samples through semiconductor cooling and heating element Peltier element. The instrument has a built-in highly sensitive temperature sensor that monitors the temperature of each sample well in real time and automatically adjusts the heating and cooling rates to ensure accurate and stable temperatures for each reaction cycle. The lid is designed with a lever mechanism that automatically applies uniform pressure to seal the reaction vessel, effectively preventing sample evaporation and temperature loss. The heat dissipation system adopts the principle of air circulation, and the design of front and rear air outlet promotes the rapid discharge of heat inside the instrument and maintains the stable operation of the equipment.

Model	**TC40**
Block	32 wells
Applicable tube types	Compatible with 0.2 mL PCR tubes and 8-strip tubes
Display	4.3" TFT Color touchscreen
USB Function	unlimited program download via USB drive. system software upgradable
Communication Interfaces	USB2.0
Temperature Control Range	0.1°C to 99.9°C
Heating rate	3°C per second
Cooling rate	2°C per second
Temperature uniformity	⩽±0.25°C
Temperature accuracy	⩽±0.25°C
Temperature resolution	0.1°C
Temperature control method	Simulated tube or sample stage mode

Model	TC40
Variable temperature rate	0.1°C to 3°C per second
Program Storage Capacity	⩾100
Time Increment, Decrement	1 to 120 seconds. supports Long PCR experiments
Temperature Increment, Decrement	0.1°C to 10°C, supports Touchdown PCR experiments
Auto Pause	yes
Low Temperature Preservation	Holding time can be set indefinitely
Program operation report record	yes
Power supply	100Vac to 240Vac, 50-60Hz, 220W
Dimensions	230x182x158mm
Weight	2.9kg