triple-block gradient thermal cycler with tft touchscreen

The three-slot gradient PCR instrument has three independent sample stations, which can perform three different PCR experiments at the same time, improving experimental efficiency and flexibility.

The three-slot gradient PCR instrument adopts high life semiconductor chip and advanced temperature control technology to realize rapid and accurate temperature change and meet the needs of various complex experiments.

Features of Three-Slot Gradient PCR Instrument

1. three independent sample stage design: three groups of sample stage can run different programs in parallel, truly a machine for multiple uses, saving equipment costs.
2. high durability semiconductor chip: imported high-level semiconductor components, cycle life of up to 1 million times, to ensure that the instrument works stably for a long time.
3. rapid temperature rate: semiconductor heating technology supports temperature switching of 7.5 °C per second, shortening the PCR reaction cycle.
4. automatic locking thermal cover pressure: to ensure uniform pressure, prevent sample evaporation and uneven reaction, improve the reliability of the experiment.

5. high-definition color touch screen: TFT true color LCD screen, support for screen angle adjustment, real-time display program running curve and temperature changes.
6. gradient temperature control function: each group of samples table support 8 lines of independent gradient temperature settings, to facilitate rapid optimization of temperature conditions.
7. large-capacity program storage: built-in 15,000 program storage space, support through the U disk expansion, to achieve unlimited program download and backup.
8. preset program templates: a variety of experimental templates to simplify the program setup, users only need to adjust a small number of parameters can be quickly completed.
9. the entire experimental process records: detailed storage of temperature changes and program execution data, for the results of analysis and quality control to provide strong support.
10. Intelligent hot lid control: When the program is completed or the temperature is lower than the set value, the hot lid is automatically closed to protect the samples and save energy consumption.
11. accurate opening and closing lid mechanism: the position of the hot lid is accurately locked to ensure temperature conduction and sample safety.

Advantages

1. High-throughput multitasking: three groups of independent sample stations to realize multitasking in parallel, improve the efficiency of laboratory work, save time and cost.
2. flexible experimental conditions: multi-row gradient temperature control supports rapid screening and optimization of reaction conditions to meet the needs of different samples and reaction systems.
3. stable and durable: the use of high-quality imported core components, reduce the failure rate, extend the life of the equipment, reduce the burden of maintenance.
4. easy to operate: large touch screen interface is user-friendly, and the pre-set templates help users to program quickly.
5. scientific data management: rich program storage and detailed running records to ensure the safety of experimental data, easy to trace and analyze.
6. excellent sample protection: automatic hot cap pressure lock and close function effectively reduces evaporation and improves sample stability.

Working Principle

The three-slot gradient PCR instrument utilizes a high-performance semiconductor Peltier element as the heating and cooling core to achieve rapid temperature rise and fall in the sample area by adjusting the current. Each independent sample stage is equipped with multiple temperature sensors for real-time monitoring and feedback of temperature data, and the control system dynamically adjusts the temperature according to the feedback signals to ensure the precise distribution of the gradient temperature. The thermal cover automatically applies uniform pressure through a mechanical lever structure to ensure that the reaction tubes are in close contact with the cover, preventing water evaporation and temperature loss. The touch screen provides intuitive display of program settings and operation status, and records the temperature and operation parameters of the whole process, providing data support for subsequent analysis.

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Model	**TC60**
Block	3 sets of 32 wells x 0.2 ml
Display	10.1" TFT color full-touch LCD screen with freely adjustable viewing angle. curve graphs display program status in real time
USB Function	unlimited program download via USB drive. system software upgradable
Communication Interfaces	USB2.0 ports and LAN

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Model	**TC60**
Temperature Control Range	0°C to 105°C
Heating rate	7.5°C per second
Cooling rate	6°C per second
Temperature uniformity	≤±0.2°C, at 90°C
Temperature accuracy	≤±0.1°C, at 90°C
Temperature resolution	0.1°C
Temperature control method	Standard mode + Fast mode
Variable temperature rate	0.1°C to 9°C per second
Gradient range	30°C to 105°C
Gradient temperature differential	0.1°C to 25°C
Gradient Temperature uniformity	≤±0.2°C

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Model	**TC60**
Gradient Temperature accuracy	⩽±0.1°C
Gradient temperature distribution	each independent sample block has 8 rows of gradient temperatures.
Program Storage Capacity	Up to 15,000 programs can be stored, unlimited programs can be downloaded via USB drive
Maximum Steps	30, suitable for multiplex nested PCR experiments
Maximum Number of Cycles	Standard cycles: 100 up to 10,000 cycles in nested loop mode
Time Increment, Decrement	1 to 600 seconds. supports Long PCR experiments
Temperature Increment, Decrement	0.1°C to 10°C, supports Touchdown PCR experiments
Auto Pause	yes
Power-off protection	yes
Low Temperature Preservation	Holding time can be set indefinitely

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Model	**TC60**
Program wizard	Preset program templates, programming can be completed by modifying only a few necessary parameters
Program Run Report	Detailed recording of the entire program operation process provides accurate data support for experimental result analysis
PC Connectivity, optional	Allows one computer to remotely control and manage up to 50 units with ease
Heated Lid Temperature	30°C to 112°C, adjustable
Heated Lid Height	Steplessly adjustable heated lid, suitable for various types of tubes and plates
Auto shut-off for heated lid	When the program ends or the sample block temperature falls below the set value, the heated lid will automatically shut off
Lid opening mechanism	Innovative lid opening and closing technology ensures precise positioning and secure locking of the heated lid during operation

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Model	**TC60**
Power supply	100Vac to 240Vac, 50-60Hz, 750W
Dimensions	375x270x278mm
Weight	13kg