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# GRADIENT PCR THERMAL CYCLER

## TSP-100 Full Touchscreen Gradient PCR Instrument

- Elegant appearance, compact structure, and smooth lines.
- 7" TFT high-definition true color touchscreen for complete control of the experimental process.
- Excellent temperature uniformity to ensure reliable experimental results.
- Convenient module replacement without the need for tools.
- Large storage space, programs can be downloaded limitlessly via USB drive.



## TSP-200 Super Gradient PCR Instrument

- 6 individual sample stages with freely adjustable temperature points, superior to traditional gradients.
- Better temperature uniformity, reducing edge effects on the sample stage.
- Maximum temperature difference between adjacent sample stages can reach 25°C.
- Semiconductor chip technology, fastest temperature ramp rate of 5.5°C/second.
- Unlimited program downloads and software upgrades via USB drive.



### 产品参数

Model	TSP-100	TSP-200
<b>Basic parameters</b>		
Voltage range	Global power 100-240 V, 50-60 Hz	
Maximum power	600W	
Dimensions (L×W×H)	362 x 256 x 255 mm	
Weight	7.3 kg	8 kg
Sample capacity	Module Options: 9677 Module: 96 wells × 0.2 mL + 77 wells × 0.5 mL 96 Module: 96 wells × 0.2 mL Multi-functional Module: 9677 Module + in-situ carrier	Consists of 6 units of 4 x 4 wells, 0.2 mL each
Temperature Control Technology	Utilizes advanced semiconductor chips from MARLOW, with a cycling durability of up to 1 million times	
LCD Display	7" TFT high-definition full-touch LCD screen, real-time display of program curves	
Language	Chinese/English	
USB Functionality	Unlimited program downloads and system software upgrades via USB	
Data Transfer Interface	2 USB ports and 1 LAN port	
Air Duct Design	Unique forward air and rear exhaust design, allowing instruments to be placed closely together, saving space	
<b>Temperature Function</b>		
Sample Stage Temperature Range	0°C-105°C	
Max. heating rate	5°C/ s	5.5°C/ s
Max. cooling rate	4°C/ s	4.5°C/ s
Temp. uniformity	≤ ±0.2°C	≤ ±0.15°C
Temp. accuracy	≤ ±0.1°C	
Temp. display resolution	0.1°C	
Temp. control method	Analog Tube + Sample Stage Mode	
Temp. change rate	0.1°C-4.0°C/s	
<b>Gradient Function</b>		
Gradient temp. uniformity	≤ ±0.2°C	
Gradient temp. accuracy	≤ ±0.1°C	≤ ±0.15°C
Gradient temp. range	30°C-105°C	0°C-105°C
Gradient Temperature Range	Adjacent sub-platform temperature difference can reach 1°C-40°C	Adjacent sub-platform temperature difference can reach 0.1°C-25°C
Gradient Temperature Point Distribution	12 columns	Each of the 6 sub-platforms can have its own temperature setting, providing superior gradient performance compared to traditional gradients
<b>Heated Lid Functionality</b>		
Heated Lid Height	Infinitely adjustable heated lid suitable for various tube and plate materials	
Lid Opening Method	Utilizes advanced lid opening and closing technology with sound prompts for overpressure protection	
Heated lid temp. range	30°C-112°C (user adjustable)	
Automatic Heated Lid Closure Function	The heated lid automatically closes when the program ends or when the sample platform temperature falls below the set value	
<b>Software Features</b>		
Instrument memory	Stores up to 10,000 programs, with unlimited program downloads via USB drive	Stores up to 15,000 programs, with unlimited program downloads via USB drive
Max. steps of the program	30 steps, supports multiple nested loops	30 steps, supports double nested loops
Program max. cycle numbers	Standard cycles up to 100 (can reach up to 10,000 in double nested loops)	
Time Increment/Decrement	1-600 s, suitable for Long PCR experiments	
Temperature Increment/Decrement	0.1°C-10.0°C, suitable for Touchdown PCR experiments	
Power down data protection	Yes	
Tm calculation	Automatically calculates denaturation and annealing temperatures based on input base sequences, improving work efficiency	
Low-Temperature Sample Storage	Yes	
Real-Time Temperature Control Curve Recording	Records and displays the temperature change curves of the heated lid and samples during operation	
On-screen report	Detailed record of the entire program run, providing accurate data support for result analysis	

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