

GRADIENT PCR THERMAL CYCLER



GRADIENT PCR THERMAL CYCLER

Engineered by finest quality and leading edge technology according to the advance technology and market norms under the direction of competent experts. Simple, intuitive programming, cost-efficient, fast setup and convenient to use makes it an ideal choice.

Used in Molecular biology, Gene amplification, Gene Expression, Research, Development, Food Science, Pharmaceutical, Life Science, Animal Diagnostics, Analytical Laboratories.

Also known as Laboratory Gradient PCR Thermal Cycler, Gradient PCR Thermocycler, Gradient PCR Machine, Laboratory Gradient PCR Thermocycler.

PG11 SERIES GRADIENT PCR THERMAL CYCLER



PG111



PG112



PG113

FEATURES

	PG111	PG112	PG113
Large size and color super-high-definition LCD screen	•	•	•
Intuitive and user-friendly interface, makes programming quick and easy	•	•	•
Low noise, low energy consumption, long application life	•	•	•
Convenient and flexible module change	•	•	
Memory function in case of power-down	•	•	
Solemn, elegant appearance, innovative design	•		
Specially designed lids reduce the evaporation during PCR	•		•
Optimal panel keypad design for convenient operation	•		
Heat lid could be positioned at any angle for easy sample access	•	•	
Handle-module, more secure and convenient for module replacement, improving interchanging efficiency and long life span	•		
Hermetic seal protects TEs from condensation, maximizing their life		•	
Two-stage hot lid pressure regulator, endures good sealing performance		•	
Gold-plated or silver-plated module improves the efficiency of heat conduction		•	•
Infinitely adjustable lid knob, suitable for various types of the tube		•	•
Metal material lid, more reliable and safe		•	
Hard disk and mouse can be linked		•	
Linked with PC for its multiple control		•	
Windows operating system		•	
Convenient, free-charge program upgraded		•	
Remote diagnosis system for easy maintenance		•	
Achieve Circulation nesting		•	

110-220V international general voltage			•
Optimized to very low energy consumption			•
Hinge utilized in laptop industry makes lode open more flexible			•
Versatile configuration options			•
Portable desgin is easy for sample blocks interchange without maintenance			•
2000 protocols on board, unlimited with use of USB memeory stick			•
ARM Platform, Windows CE operating system			•
Make a reservation and alarm for daily lab work			•
Support the function of TM value calculation			•
Portability: Transfers method between Genemate systems via USB ports			•
Backup: Store your most important methods on a USB memory stick			•
Storage: Store an unlimited number of methods by using a USB memory stick			•
Uploads: Update firmware when enhancements become available			•

SPECIFICATIONS

Model	PG111	PG112	PG113
Name	Gradient Thermal Cycler		Gradient Touch Screen Thermal cycler
Temperature Range	0°C~99.9°C		
Max.Heating Ramp Rate	4.0°C/s	4.5°C/s	5°C/s
Max.Cooling Ramp Rate	3.5°C/s	4°C/s	5°C/s
Block Formats	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x05 ml (C) / 384well (D)	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x05 ml (C) / 384well (D)	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x0.5 ml (C) / 384well (D)
Display Interface	5.7' LCD		7' LCD
Heating/Cooling adjustable rate	0.1°C/s~4.0°C/s		
Uniformity	≤±0.2°C(20~75°C)	≤±0.2°C	
Accuracy	≤±0.2°C	≤±0.1°C	
Gradient Temp Range	30~99°C		
Thermal Gradient Span	2~30°C	1~30°C	
Gradient Uniformity	≤0.2°C(single row)		
Hot Lid Temperature	30~115°C	20~110°C	
Max.No.of Cycle	99	999	
Communication	USB2.0 / RS 232	USB2.0 / RS 232 / RJ45	
Temp Control Mode	Block, tube	Block, tube*	
Memory Capacity	200	1000**	2000*
Dimension (W×D×H)	380x270x250 mm		
Weight	7.2 kg	7.8 kg	8.1 kg
Note	-	*10~100µl Optional **Unlimited with use of USB memory stick	
Intelligent Diagnosis	-	108	

ACCESSORIES

Accessory Code	Name	Capacity
PX1001	Block C	96×0.2 ml+77×0.5 ml

OPTIONAL ACCESSORIES

Accessory Code	Name	Capacity
PX1002	Block A	96×0.2 ml
PX1003	Block B	54×0.5 ml
PX1004	Block D	384 well

PG12 SERIES 96 WELL GRADIENT THERMAL CYCLER



PG121, PG122

PG124, PG126

PG125

FEATURES

	PG121	PG122	PG124	PG125	PG126
The most advanced peltier-based semiconductor technology	•	•			
Highly performance universal power supply	•	•			
Large 5.7 inch high-definition LCD display	•	•			
Graphical user interface in English and Chinese	•	•			
Power-down data protection	•	•			
Metal shell, solid, practical, beautiful and generous	•	•			
Stepless adjustable hot lid	•	•			
Lid can be positioned at any angle	•	•			
High-sealing reaction zone, to ensure stable and reliable test	•	•			
Six pieces of long service life Peltier heating units and form 3 circuits to control 3 temperature zones			•		
Reinforced aluminum module with anodizing technology can keep rapid heating-conducting property and have enough corrosion resistance			•	•	•
High heating and cooling rate, max. Ramping rate 4.5 °C/s, can save your precious time			•		
Stepless adjustable hot lid, fit tubes of different heights to avoid tube melt and evaporation			•	•	
TFT color touch-screen with graphical display provides easy use for setting up and monitoring			•		•
Built-in 11 standard program file template, can quickly edit the required files			•	•	•
Folder management, user can build directory			•	•	•
The running program and left time can be displayed in real time, allow to edit file when program is running			•	•	
One-click quick incubation function can meet experiment's needs such as denaturation, enzyme cutting/enzyme-link and ELISA			•	•	•
Internal flash memory for 10000 typical PCR files in free configurable folders			•	•	•
Hot lid temperature and hot lid work mode can be set to meet different experiment's need			•	•	•
Automatic restart after power failure. When power is restored it can continue to run			•	•	•

unfinished program

GLP report records every step to provide accurate data support for experiment result analysis					•	•	•
User Login Management, three-tier permission, password protection function to ensure data security					•	•	•
Compatible with devices such as Mouse and Keyboard and capable to transfer data and perform software updates via USB Drive					•	•	•
Support USB and LAN to update software					•	•	•
One computer can control many sets of PCR via network connection					•	•	•
Min type Bluetooth printer as an option, easily record information					•	•	
Support email-alert function when experiment is over					•	•	•
Six pieces of long service life Peltier heating units and can independently control 6 temperature zones						•	
High heating and cooling rate, max. Ramping rate 6 °C/s, can save your precious time						•	
Windows interface, 8" (800×600, 16 colors) TFT color touch-screen with graphical display provides easy use for setting up and monitoring						•	
8 pcs long service life Peltier heating units and form 4 circuits to control 4 temperature zones and allow double block gradient function							•
High heating and cooling rate, max. Ramping rate 5 °C/s, can save your precious time							•
Two blocks independently controlled and can run 2 different PCR programs simultaneously							•
Stepless adjustable hot lid with pressure-protection, fit tubes of different heights to avoid tube melt and evaporation							•
The running program and left time can be displayed in real time , allow to edit file when program is running							•

SPECIFICATIONS

Model	PG121	PG122	PG124
Sample Capacity	96×0.2 ml	96×0.2 ml+77×0.5 ml	96×0.2 ml
Temperature Range	0°C~99.9°C		0°C-100°C
Temperature Increment/Decrement	0.1~10.0°C		
Hold at 4°C	Forever		
Max. ramp rate	0.1°C~2.5°C		0.1°C~4.5°C
Max Heating Rate	4.5°C		
Max Cooling Rate	4°C / s		
Display Interface	LCD, 8", 800×600		
Display Resolution	0.1°C		
Uniformity	≤±0.3°C		≤±0.2°C
Accuracy	≤±0.2°C		≤±0.1°C
Thermal Gradient Accuracy	≤±0.3°C		≤±0.2°C
Gradient Spread	1~30°C		
Gradient Uniformity	≤±0.2°C		
Hot Lid Temperature	30°C~110°C		
Height of hot Lid	Stepless Adjustable		
Max.No.of Cycle	100		
Program Storage	10000+(USB Flash)		
Max Program Steps	30		
Communication	USB2.0 , LAN		

Temp Control Mode	Block, tube		
Time Increment/Decrement	1 sec ~600 sec		
Pause Function	Yes		
Auto Data Protection	Yes		
Dimension (W×D×H)	270x390x255 mm		
Power	600 W		
Weight	9 kg	8.5 kg	
Power Supply	85 ~ 264 V AC , 47 ~ 63 Hz		
Gradient Temp Range	-	-	30°C~100°C

Model	PG125	PG126
Sample Capacity	96×0.2 ml (6 independent 16 well block)	96×0.2 ml, In-situ Plate
Temperature Range	4°C~100°C	0°C-100°C
Temperature Increment/Decrement	0.1~10.0°C	
Hold at 4°C	Forever	
Max. ramp rate	0.1°C~6°C	0.1°C~5°C
Max Heating Rate	6°C / s	5°C / s
Max Cooling Rate	4°C / s	
Display Interface	LCD, 8', 800×600, TFT	LCD, 8', 800×600
Display Resolution	0.1°C	
Uniformity	≤±0.3°C	≤±0.2°C
Accuracy	≤±0.2°C	≤±0.1°C
Thermal Gradient Accuracy	-	≤±0.2°C
Gradient Spread	Temperature difference of adjacent temperature zone is 0.1-5°C. 6 temperature zones in total	1~30°C
Gradient Uniformity	-	≤±0.2°C
Hot Lid Temperature	30°C~110°C	
Height of hot Lid	Stepless Adjustable	
Max.No.of Cycle	100	
Program Storage	10000+(USB Flash)	
Max Program Steps	30	
Communication	USB2.0 , LAN	
Temp Control Mode	Block, tube	
Time Increment/Decrement	1 sec ~600 sec	
Pause Function	Yes	
Auto Data Protection	Yes	
Dimension (W×D×H)	270x390x255 mm	
Power	600 W	
Weight	9 kg	
Power Supply	85 ~ 264 V AC , 47 ~ 63 Hz	
Gradient Temp Range	30°C~100°C	

PG13 SERIES 32X0.2MLX3 GRADIENT THERMAL CYCLER

- 6 long service life Peltier heating units and form 3 circuits to control 3 temperature zones
- Reinforced aluminum module with anodizing technology can keep rapid heating-conducting property and have enough corrosion resistance
- High heating and cooling rate, max. Ramping rate 4.5 °C/s, can save your precious time
- 3 blocks independently controlled and can run 3 different PCR programs simultaneously
- Stepless adjustable hot lid with pressure-protection, fit tubes of different heights to avoid tube melt and evaporation
- Windows interface, 8" (800×600, 16 colors) TFT color touch-screen with graphical display provides easy use for setting up and monitoring
- Built-in 11 standard program file template, can quickly edit the required files
- Folder management, user can build directory
- The running program and left time can be displayed in real time , allow to edit file when program is running
- One-click quick incubation function can meet experiment's needs such as denaturation, enzyme cutting/enzyme-link and ELISA
- Internal flash memory for 10000 typical PCR files in free configurable folders
- Hot lid temperature and hot lid work mode can be set to meet different experiment's need
- Automatic restart after power failure. When power is restored it can continue to run unfinished program
- GLP report records every step to provide accurate data support for experiment result analysis
- User Login Management, three-tier permission, password protection function to ensure data security
- Compatible with devices such as Mouse and Keyboard and capable to transfer data and perform software updates via USB Drive
- Support USB and LAN to update software
- One computer can control many sets of PCR via network connection
- Min type Bluetooth printer as an option, easily record information
- Support email-alert function when experiment is over



SPECIFICATIONS

Model	PG131	PG132
Sample Capacity	3×(32×0.2 ml)	
Temperature Range	0~100°C	
Temperature Increment/Decrement	0.1~10.0°C	
Hold at 4°C	Forever	
Max. ramp rate	0.1°C~5°C	
Max Heating Rate	4.5°C	5°C / s
Max Cooling Rate	4°C / s	
Display Interface	LCD, 8", 800×600, TFT	
Display Resolution	0.1°C	
Uniformity	≤±0.4°C	≤±0.3°C
Accuracy	≤±0.3°C	≤±0.2°C
Gradient Temp Range	30°C~100°C	
Gradient mode	Can independently set three gradient temperature(in update)	-
Hot Lid Temperature	30°C~110°C	
Height of hot Lid	Stepless Adjustable	
Max.No.of Cycle	100	
Program Storage	10000+(USB Flash)	
Max Program Steps	30	
Communication	USB2.0 , LAN	
Temp Control Mode	Block, tube	
Time Increment/Decrement	1 sec ~600 sec	
Pause Function	Yes	
Auto Data Protection	Yes	
Dimension (W×D×H)	270x390x255 mm	
Power	600 W	
Weight	9 kg	
Power Supply	85 ~ 264 V AC , 47 ~ 63 Hz	
Gradient Spread	-	1~30°C

PG14 SERIES 54×0.5ML AND 60×0.5ML WELL GRADIENT THERMAL CYCLER



PG141



PG143

FEATURES

PG141 PG143

The most advanced peltier-based semiconductor technology	•	
Highly performance universal power supply	•	
Large 5.7 inch high-definition LCD display	•	
Graphical user interface in English and Chinese	•	
Power-down data protection	•	
Metal shell, solid, practical, beautiful and generous	•	
Stepless adjustable hot lid	•	
Lid can be positioned at any angle	•	
High-sealing reaction zone, to ensure stable and reliable test	•	
8 pcs long service life Peltier heating units and form 4 circuits to control 4 temperature zones and allow double block gradient function		•
Reinforced aluminum module with anodizing technology can keep rapid heating-conducting property and have enough corrosion resistance		•
High heating and cooling rate, max. Ramping rate 5 °C/s, can save your precious time		•
Two blocks independently controlled and can run 2 different PCR programs simultaneously		•
Stepless adjustable hot lid with pressure-protection, fit tubes of different heights to avoid tube melt and evaporation		•
TFT color touch-screen with graphical display provides easy use for setting up and monitoring		•
Built-in 11 standard program file template, can quickly edit the required files		•
Folder management, user can build directory		•
The running program and left time can be displayed in real time , allow to edit file when program is running		•
One-click quick incubation function can meet experiment's needs such as denaturation, enzyme cutting/enzyme-link and ELISA		•
Internal flash memory for 10000 typical PCR files in free configurable folders		•
Hot lid temperature and hot lid work mode can be set to meet different experiment's need		•
Automatic restart after power failure. When power is restored it can continue to run unfinished program		•
GLP report records every step to provide accurate data support for experiment result analysis		•
User Login Management, three-tier permission, password protection function to ensure data security		•
Compatible with devices such as Mouse and Keyboard and capable to transfer data and perform software updates via USB Drive		•
Support USB and LAN to update software		•
One computer can control many sets of PCR via network connection		•
Support email-alert function when experiment is over		•

SPECIFICATIONS

Model	PG141	PG143
Sample Capacity	54×0.5 ml	60×0.5ml, In-situ Plate
Temperature Range	0°C~99.9°C	0°C-100°C
Temperature Increment/Decrement	0.1~10.0°C	
Hold at 4°C	Forever	
Max. ramp rate	0.1°C~2.5°C	0.1°C~5°C
Max Heating Rate	4.5°C	5°C / s
Max Cooling Rate	4°C / s	
Display Interface	LCD, 8', 800×600	
Display Resolution	0.1°C	
Uniformity	≤±0.3°C	≤±0.2°C
Accuracy	≤±0.2°C	≤±0.1°C

Thermal Gradient Accuracy	$\leq \pm 0.3^{\circ}\text{C}$	$\leq \pm 0.2^{\circ}\text{C}$
Gradient Spread	1~30°C	
Gradient Uniformity	$\leq \pm 0.2^{\circ}\text{C}$	
Hot Lid Temperature	30°C~110°C	
Height of hot Lid	Stepless Adjustable	
Max.No.of Cycle	100	
Program Storage	10000+(USB Flash)	
Max Program Steps	30	
Communication	USB2.0 , LAN	
Temp Control Mode	Block, tube	
Time Increment/Decrement	1 sec ~600 sec	
Pause Function	Yes	
Auto Data Protection	Yes	
Dimension (W×D×H)	270x390x255 mm	
Power	600 W	
Weight	9 kg	
Power Supply	85 ~ 264 V AC , 47 ~ 63 Hz	
Gradient Temp Range	-	30°C~100°C

PG15 SERIES 384 WELL GRADIENT THERMAL CYCLER



PG151



PG152

FEATURES

PG151 PG152

The most advanced peltier-based semiconductor technology	●	
Highly performance universal power supply	●	
Large 5.7 inch high-definition LCD display	●	
Graphical user interface in English and Chinese	●	
Power-down data protection	●	
Metal shell, solid, practical, beautiful and generous	●	
Stepless adjustable hot lid	●	
Lid can be positioned at any angle	●	
High-sealing reaction zone, to ensure stable and reliable test	●	
8 pcs long service life Peltier heating units and form 4 circuits to control 4 temperature zones and allow double block gradient function		●
Reinforced aluminum module with anodizing technology can keep rapid heating-conducting property and have enough corrosion resistance		●
High heating and cooling rate, max. Ramping rate 5 °C/s, can save your precious time		●
Two blocks independently controlled and can run 2 different PCR programs simultaneously		●

Stepless adjustable hot lid with pressure-protection, fit tubes of different heights to avoid tube melt and evaporation		•
TFT color touch-screen with graphical display provides easy use for setting up and monitoring		•
Built-in 11 standard program file template, can quickly edit the required files		•
Folder management, user can build directory		•
The running program and left time can be displayed in real time , allow to edit file when program is running		•
One-click quick incubation function can meet experiment's needs such as denaturation, enzyme cutting/enzyme-link and ELISA		•
Internal flash memory for 10000 typical PCR files in free configurable folders		•
Hot lid temperature and hot lid work mode can be set to meet different experiment's need		•
Automatic restart after power failure. When power is restored it can continue to run unfinished program		•
GLP report records every step to provide accurate data support for experiment result analysis		•
User Login Management, three-tier permission, password protection function to ensure data security		•
Compatible with devices such as Mouse and Keyboard and capable to transfer data and perform software updates via USB Drive		•
Support USB and LAN to update software		•
One computer can control many sets of PCR via network connection		•
Support email-alert function when experiment is over		•

SPECIFICATIONS

Model	PG151	PG152
Sample Capacity	384 well	384 well, In-situ Plate
Temperature Range	0°C~99.9°C	0°C-100°C
Temperature Increment/Decrement	0.1~10.0°C	
Hold at 4°C	Forever	
Max. ramp rate	0.1°C~2.5°C	0.1°C~5°C
Max Heating Rate	4.5°C	5°C / s
Max Cooling Rate	4°C / s	
Display Interface	LCD, 8', 800×600	
Display Resolution	0.1°C	
Uniformity	≤±0.3°C	≤±0.2°C
Accuracy	≤±0.2°C	≤±0.1°C
Thermal Gradient Accuracy	≤±0.3°C	≤±0.2°C
Gradient Spread	1~30°C	
Gradient Uniformity	≤±0.2°C	
Hot Lid Temperature	30°C~110°C	
Height of hot Lid	Stepless Adjustable	
Max.No.of Cycle	100	
Program Storage	10000+(USB Flash)	
Max Program Steps	30	
Communication	USB2.0 , LAN	
Temp Control Mode	Block, tube	
Time Increment/Decrement	1 sec ~600 sec	
Pause Function	Yes	
Auto Data Protection	Yes	
Dimension (W×D×H)	270x390x255 mm	

Power	600 W	
Weight	9 kg	
Power Supply	85 ~ 264 V AC , 47 ~ 63 Hz	
Gradient Temp Range	-	30°C~100°C

PG16 SERIES DOUBLE BLOCK GRADIENT THERMAL CYCLER

- 8 pcs long service life Peltier heating units and form 4 circuits to control 4 temperature zones and allow double block gradient function
- Reinforced aluminum module with anodizing technology can keep rapid heating-conducting property and have enough corrosion resistance
- High heating and cooling rate, max. Ramping rate 5 °C/s, can save your precious time
- Two blocks independently controlled and can run 2 different PCR programs simultaneously
- Stepless adjustable hot lid with pressure-protection, fit tubes of different heights to avoid tube melt and evaporation
- TFT color touch-screen with graphical display provides easy use for setting up and monitoring
- Built-in 11 standard program file template, can quickly edit the required files
- Folder management, user can build directory
- The running program and left time can be displayed in real time , allow to edit file when program is running
- One-click quick incubation function can meet experiment's needs such as denaturation, enzyme cutting/enzyme-link and ELISA
- Internal flash memory for 10000 typical PCR files in free configurable folders
- Hot lid temperature and hot lid work mode can be set to meet different experiment's need
- Automatic restart after power failure. When power is restored it can continue to run unfinished program
- GLP report records every step to provide accurate data support for experiment result analysis
- User Login Management, three-tier permission, password protection function to ensure data security
- Compatible with devices such as Mouse and Keyboard and capable to transfer data and perform software updates via USB Drive
- Support USB and LAN to update software
- One computer can control many sets of PCR via network connection
- Support email-alert function when experiment is over



SPECIFICATIONS

Model	PG162
Sample Capacity	Double 48×0.2 ml, In-situ Plate
Temperature Range	0°C-100°C
Temperature Increment/Decrement	0.1~10.0°C
Hold at 4°C	Forever
Max. ramp rate	0.1°C~5°C
Max Heating Rate	5°C / s
Max Cooling Rate	4°C / s
Display Interface	LCD, 8', 800×600
Display Resolution	0.1°C
Uniformity	≤±0.2°C
Accuracy	≤±0.1°C
Thermal Gradient Accuracy	≤±0.2°C
Gradient Temp Range	30°C~100°C
Gradient Spread	1~30°C
Gradient Uniformity	≤±0.2°C
Hot Lid Temperature	30°C~110°C
Height of hot Lid	Stepless Adjustable
Max.No.of Cycle	100
Program Storage	10000+(USB Flash)
Max Program Steps	30
Communication	USB2.0 , LAN
Temp Control Mode	Block, tube
Time Increment/Decrement	1 sec ~600 sec
Pause Function	Yes
Auto Data Protection	Yes
Dimension (W×D×H)	270x390x255 mm
Power	600 W
Weight	9 kg

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