



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 Cyclers, Gradient PCR Thermocycler, Gradient PCR Machine, Laboratory Gradient PCR Thermocycler.

BTHC-101 GRADIENT THERMAL CYCLER



- Convenient and flexible module change
- 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
- Large size and color super-high-definition LCD screen
- Intuitive and user-friendly interface, makes programming quick and easy
- Infinitely adjustable lid knob, suitable for various types of the tube
- Memory function in case of power-down
- Low noise, low energy consumption, long application life
- Heat lid could be positioned at any angle for easy sample access
- 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

SPECIFICATIONS

Model	BTHC-101
Temperature Range	0°C~99.9°C
Max.Heating Ramp Rate	4.0°C/s
Max.Cooling Ramp Rate	3.5°C/s
Block Formats	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x05 ml (C) / 384well (D)
Display Interface	5.7"LCD
Heating/Cooling adjustable rate	0.1°C/s~4.0°C/s
Uniformity	±0.2°C(20~75°C)
Accuracy	±0.2°C
Gradient Temp Range	30~99°C
Thermal Gradient Span	2~30°C
Gradient Uniformity	±0.2°C(single row)
Hot Lid Temperature	30~115°C
Max.No.of Cycle	99
Communication	USB2.0 / RS 232

Temp Control Mode	Block, tube
Memory Capacity	200
Dimension (WxDxH)	380x270x250 mm
Weight	7.2 kg

ACCESSORIES

Accessory Code	Name	Capacity
5200606009	Block C	96x0.2 ml+77x0.5 ml

OPTIONAL ACCESSORIES

Accessory Code	Name	Capacity
5200606006	Block A	96x0.2 ml
5200606007	Block B	54x0.5 ml
5200606008	Block D	384 well

BTHC-102 GRADIENT THERMAL CYCLER



Optimized to very low energy consumption
 Low noise, low energy consumption, long application life
 Specially designed lids reduce the evaporation during PCR
 Hinge utilized in labtop industry makes lid open more flexible
 Infinitely adjustable lid knob, suitable for various types of the tube
 Versatile configuration options
 Gold-plated or silver-plated module improves the efficiency of heat conduction
 Portable design is easy for sample blocks interchange without maintenance
 2000 protocols on board, unlimited with use of USB memory stick
 ARM Platform, Windows CE operating system
 Large size and color super-high-definition LCD screen
 Intuitive and user-friendly interface, makes programming quick and easy
 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	BTHC-102
Temperature Range	0°C~99.9°C
Max.Heating Ramp Rate	4.5°C/s
Max.Cooling Ramp Rate	4°C/s
Block Formats	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x0.5 ml (C) / 384well (D)
Display Interface	5.7"LCD
Heating/Cooling adjustable rate	0.1°C/s~4.0°C/s

Uniformity	$\leq \pm 0.2^{\circ}\text{C}$
Accuracy	$\leq \pm 0.1^{\circ}\text{C}$
Gradient Temp Range	30~99°C
Thermal Gradient Span	1~30°C
Gradient Uniformity	$\leq 0.2^{\circ}\text{C}$ (single row)
Hot Lid Temperature	20~110°C
Max.No.of Cycle	999
Communication	USB2.0 / RS 232 / RJ45
Temp Control Mode	Block, tube*
Memory Capacity	1000**
Note	*10~100µl Optional **Unlimited with use of USB memory stick
Intelligent Diagnosis	108
Dimension (WxDxH)	380x270x250 mm
Weight	7.8 kg

ACCESSORIES

Accessory Code	Name	Capacity
5200606009	Block C	96x0.2 ml+77x0.5 ml

OPTIONAL ACCESSORIES

Accessory Code	Name	Capacity
5200606006	Block A	96x0.2 ml
5200606007	Block B	54x0.5 ml
5200606008	Block D	384 well

100 GRADIENT PCR THERMAL CYCLER



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

SPECIFICATIONS

Model	BTHC-103	BTHC-104	BTHC-110	BTHC-113
Temperature Range	0°C~99.9°C		0~100°C	0°C-100°C
Max.Heating Ramp Rate	5°C/s	-	-	-
Max.Cooling Ramp Rate	5°C/s	-	-	-

Block Formats	96x0.2 ml (A) / 54x0.5 ml (B) / 96x0.2 ml+77x0.5 ml (C) / 384well (D)	-	-	-
Display Interface	7"LCD	LCD, 8',800x600	LCD, 8',800x600, TFT	LCD, 8',800x600
Heating/Cooling adjustable rate	0.1°C/s~4.0°C/s	-	-	-
Uniformity	±0.2°C	±0.3°C		±0.2°C
Accuracy	±0.1°C	±0.2°C		±0.1°C
Gradient Temp Range	30~99°C	-	30°C~100°C	
Thermal Gradient Span	1~30°C	-	-	-
Gradient Uniformity	≤0.2°C(single row)	±0.2°C	-	±0.2°C
Hot Lid Temperature	20~110°C	30°C~110°C		
Max.No.of Cycle	999	100		
Communication	USB2.0 / RS 232 / RJ45	USB2.0 , LAN		
Temp Control Mode	Block, tube*	Block, tube		
Memory Capacity	2000*	-	-	-
Note	*10~100µl Optional **Unlimited with use of USB memory stick	-	-	-
Intelligent Diagnosis	108	-	-	-
Dimension (WxDxH)	380x270x250 mm	270x390x255 mm		
Weight	8.1 kg	9 kg		
Sample Capacity	-	96x0.2 ml	3x(32x0.2 ml)	60x0.5ml, In-situ Plate
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 Resolution	-	0.1°C		
Thermal Gradient Accuracy	-	±0.3°C	-	±0.2°C
Gradient Spread	-	1~30°C		
Height of hot Lid	-	Stepless Adjustable		
Program Storage	-	10000+(USB Flash)		
Max Program Steps	-	30		
Time Increment/Decrement	-	1 sec ~600 sec		
Pause Function	-	Yes		
Auto Data Protection	-	Yes		
Power	-	600 W		
Power Supply	-	85~264 V AC , 47~63 Hz		



BTHC-103



BTHC-104



BTHC-110



BTHC-113

BTHC-105 96 WELL GRADIENT THERMAL CYCLER



- 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 °/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

SPECIFICATIONS

Model	BTHC-105
Sample Capacity	96x0.2 ml+77x0.5 ml
Temperature Range	0°C~99.9°C
Temperature Increment/Decrement	0.1~10.0°C
Hold at 4°C	Forever
Max. ramp rate	0.1°C~2.5°C
Max Heating Rate	4.5°C
Max Cooling Rate	4°C / s
Display Interface	LCD, 8',800x600
Display Resolution	0.1°C
Uniformity	≤±0.3°C
Accuracy	≤±0.2°C
Thermal Gradient Accuracy	≤±0.3°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 (WxDxH)	270x390x255 mm
Power	600 W
Weight	9 kg
Power Supply	85~264 V AC , 47~63 Hz

100 GRADIENT PCR 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 °/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	BTHC-106	BTHC-112	BTHC-115
Sample Capacity	96x0.2 ml	-	384 well, In-situ Plate
Temperature Range	0°C~100°C	-	0°C~100°C
Temperature Increment/Decrement	0.1~10.0°C	-	0.1~10.0°C
Hold at 4°C	Forever	-	Forever
Max. ramp rate	0.1°C~4.5°C	-	0.1°C~5°C
Max Heating Rate	4.5°C	-	5°C / s
Max Cooling Rate	4°C / s	-	4°C / s
Display Interface	LCD, 8',800x600	-	LCD, 8',800x600
Display Resolution	0.1°C	-	0.1°C
Uniformity	±0.2°C	-	±0.2°C
Accuracy	±0.1°C	-	±0.1°C
Thermal Gradient Accuracy	±0.2°C	-	±0.2°C
Gradient Temp Range	30°C~100°C	-	30°C~100°C
Gradient Spread	1~30°C	-	1~30°C
Gradient Uniformity	±0.2°C	-	±0.2°C
Hot Lid Temperature	30°C~110°C	-	30°C~110°C
Height of hot Lid	Stepless Adjustable	-	Stepless Adjustable
Max.No.of Cycle	100	-	100
Program Storage	10000+(USB Flash)	-	10000+(USB Flash)
Max Program Steps	30	-	30
Communication	USB2.0 , LAN	-	USB2.0 , LAN
Temp Control Mode	Block, tube	-	Block, tube
Time Increment/Decrement	1 sec ~600 sec	-	1 sec ~600 sec
Pause Function	Yes	-	Yes
Auto Data Protection	Yes	-	Yes
Dimension (WxDxH)	270x390x255 mm	-	270x390x255 mm
Power	600 W	-	600 W
Weight	8.5 kg	-	9 kg
Power Supply	85~264 V AC , 47~63 Hz		



BTHC-106



BTHC-112



BTHC-115

BTHC-108 96 WELL GRADIENT THERMAL CYCLER



Six pieces of long service life Peltier heating units and can independently control 6 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 6 °/s, can save your precious time

Stepless adjustable hot lid, fit tubes of different heights to avoid tube melt and evaporation

Windows interface, 8" (800x600, 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	BTHC-108
Sample Capacity	96x0.2 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',800x600
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	$\leq \pm 0.2^{\circ}\text{C}$
Hot Lid Temperature	$30^{\circ}\text{C} \sim 110^{\circ}\text{C}$
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 (WxDxH)	270x390x255 mm
Power	600 W
Weight	9 kg
Power Supply	85~264 V AC , 47~63 Hz

BTHC-109 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 $^{\circ}\text{C}/\text{s}$, 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" (800x600, 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	BTHC-109
Sample Capacity	3x(32x0.2 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
Max Cooling Rate	4°C / s
Display Interface	LCD, 8",800x600, TFT
Display Resolution	0.1°C
Uniformity	≤±0.4°C
Accuracy	≤±0.3°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 (WxDxH)	270x390x255 mm
Power	600 W
Weight	9 kg
Power Supply	85~264 V AC , 47~63 Hz

BTHC-117 DOUBLE BLOCK GRADIENT THERMAL CYCLER



It is small-sized and easy to program with an intuitive user interface

The lid adopts the high temperature resistant material and applicable to various types of test tube

Memory function in case of power-down

Two control mode:PCR control through the PC operating software

It is benefit for students to understand with the animation presentation capabilities of the PC operating software

Achieve circulation nesting

SPECIFICATIONS

Model	BTHC-117
Sample Capacity	Double 48x0.2 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',800x600
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 (WxDxH)	270x390x255 mm
Power	600 W
Weight	9 kg

ACCESSORIES

Accessory Code	Name	Capacity
5200622006	Block A	30x0.2 ml

OPTIONAL ACCESSORIES

Accessory Code	Name	Capacity
5200622007	Block B	9x0.5 ml
5200622008	Block C	16x0.2 ml+9x0.5 ml

600 GRADIENT THERMAL CYCLER



New and unique appearance, the interface operation is simple and convenient, compact size

hot lid can be switched on and off, and test tube temperature control mode and module temperature control mode can be choose to meet more different experimental requirements

The system has a built-in gradient calculator, which can easily obtain accurate annealing temperature for different experimental samples to optimize PCR reaction conditions

Can be quickly upgraded via U disk, convenient for instrument software update

SPECIFICATIONS

Model	BTHC-601	BTHC-602
Sample Capacity	96x0.2 ml	384x0.04 ml
Temp. range	4~99.9 °C (Constant temp. 4°C)	
Single step time	1-59 m 59 s, 0 is forever	
Max. heating rate	4.5 °C/s	
Max. Cooling rate	4 °C/s	
Temp. uniformity	±0.25 °C	
Temp. accuracy	± 0.20 °C	
Temp. display resolution	0.1 °C	
Temp. control method	Block\Tube	
Gradient temp. uniformity	±0.3 °C	
Gradient temp. accuracy	±0.3 °C	
Gradient Temp. range	30~99.9 °C	
Gradient temp. difference range	0.1~30 °C	
Hot cover temp. range	30~110 °C	
Max. steps of the program	30	
Program max. cycle nu	99	
Time increment/decrement	-599 ~ +599 s	
Temp. increase/decrease	-9.9 ~ +9.9 °C	
Program pause function	Yes	
16°C Insulation	Forever	
LCD	5 inch, 800x480 Pixel	
Program storage quantity	>100	
Communication Interface	USB 2.0	
Input power	100~240V AC6.6~3.1A 50/60Hz	
Dimensions	W.185xD.280xH.160 mm	
Net weight	4.3 kg	



BTHC-601



BTHC-602

BTHC-603 GRADIENT THERMAL CYCLER



New and unique appearance, the interface operation is simple and convenient, ultra-light ultra-thin

Hot lid can be switched on and off, and test tube temperature control mode and module temperature control mode can be choose to meet more different experimental requirements

MP-16 mini PCR can be used in vehicles

Can be quickly upgraded via U disk, convenient for instrument software update

SPECIFICATIONS

Model	BTHC-603
Sample Capacity	32x0.2 ml
Temp. range	4~99.9 °C
Single step time range	1-59 m 59 s, 0 is forever
Max. heating rate	6°C/s
Max. Cooling rate	5 °C/s
Temp. uniformity	±0.25 °C
Temp. accuracy	± 0.20 °C
Temp. display resolution	0.1 °C
Temp. control method	Block\Tube
Gradient temp. uniformity	±0.3 °C
Gradient temp. accuracy	±0.3 °C
Gradient Temp. range	30~99.9 °C
Gradient temp. difference range	0.1~30 °C
Hot cover temp. range	30~110 °C
Max. steps of the program	30
Program max. cycle nu	99
Time increment/decrement	-599 ~ +599 s
Temp. increase/decrease	-9.9 ~ +9.9 °C
Program pause function	Yes
16°C Insulation	Forever
LCD	5 inch, 800x480 Pixel
Program storage quantity	>100

Communication Interface	USB 2.0
Input power	24V,8A
Dimensions	W.200xD.230xH.85 mm
Net weight	3.2 kg



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