

## Line-Gene 9600



Line-Gene 9600 is the newest product of Bioer's Real-Time PCR detection system family. Based on Line-Gene family's tradition, Line-Gene 9600 Performs larger sample capacity, more detection channels and wider temperature range.

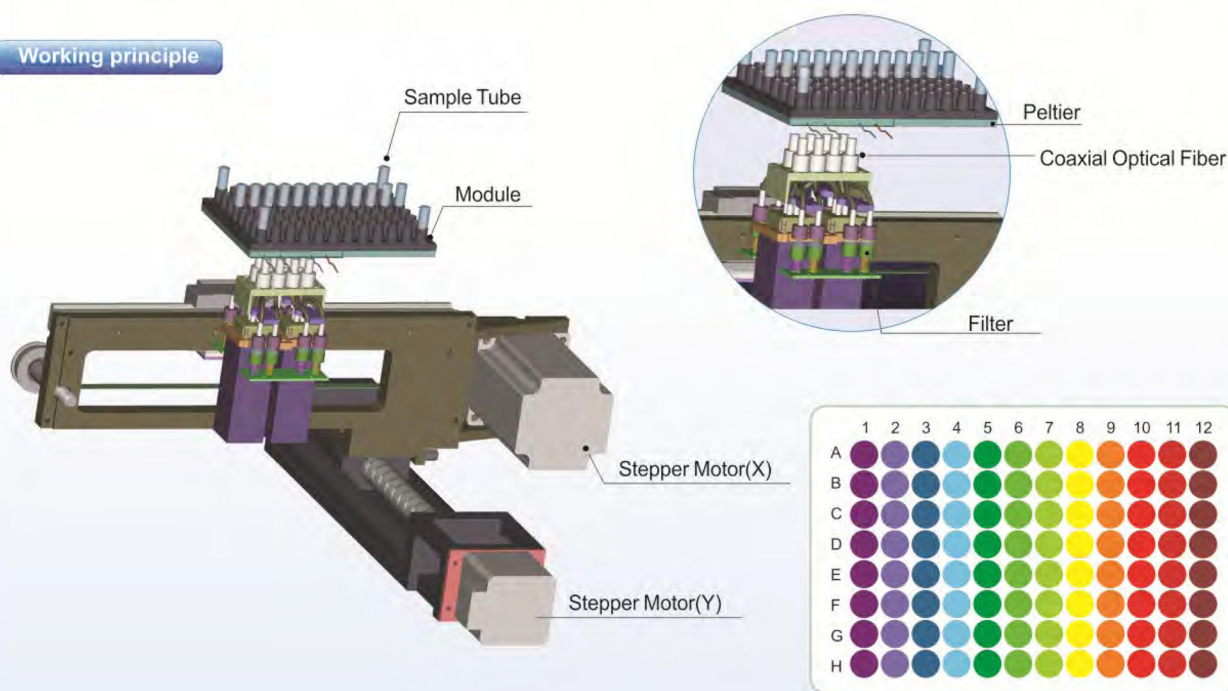
Unlike other Line-Genes in family, the unique patented block dissipation technology and bottom detection mode provide Line-Gene 9600 better heating/cooling rate, temperature accuracy, uniformity and stability. Line-Gene 9600 has up to 96 sample capacity and implements 96 wells dual-color scanning only within 5.5 seconds. With new design of at most eight channels, the instrument covers the whole fluorescence detection wavelength.

Adopting Ferrotec newest Peltier, fiber optic technology and a new global wide range power supply, the highly improved instrument is available for a variety of scientific research and clinical applications.

Two kinds of profesional softwares for your special use either for clinical or research use.

- The clinical software is much intuitive with direct report with the precised result
- The research software has multiple functions such as SNP, relative quantitative for your special use.

### Working principle



※ up to 36℃ of the temperature range

# All for you! The best 18



New Baseline/Threshold and Linreg analytical methods.  
Separate and accurate analysis of each sample.



Comprehensive reporting capabilities.  
Panoramic view of all experimental results.



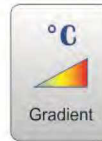
Using excellent Ferrotec Peltier cooler inside.



Up to 8 individual filters, cover all wavelength of common used dye.



Up to 96 samples, fit for most full skirted plate, 12×8-strips and 96×0.2ml tubes.



Maximum 36°C temperature gradient control function, with calculator.



Constant pressure hot-lid, automatically adjust height, effectively prevent reagent evaporation.



Automatically temperature control mode (Tube / Block) switch based on sample volume.



Multi-socket transformer, fir for RS232C, USB or blue tooth, PC - connection easily.



Professional analysis software, installable for both Windows 2000/XP/Win7/vista.



Patented block dissipation technology brings on excellent performance in heating and cooling rate.



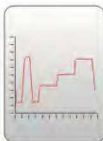
Bottom detection mode avoids interference between wells and insures result more reliable.



Long-life LED light source, paired excitation, dual high-sensitivity PMT synchronous detection.



Wide block temperature range: 4-105°C, with SOAK low temperature conservation function.



Highly temperature control accuracy and stability as Bioer's tradition.



Both entire plate and designated line scan mode. Rapid for a 96 wells dual-color scanning.

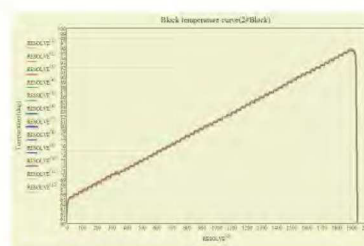
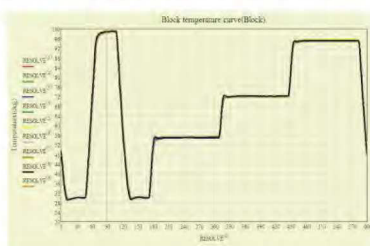


Optional hot-lid temperature range, switch available. Plus front switch makes it safer.



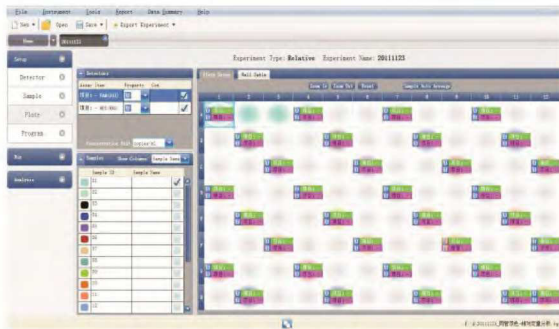
Global wide power supply range with PFC function.

## Highly Temperature Control Accuracy & Stability

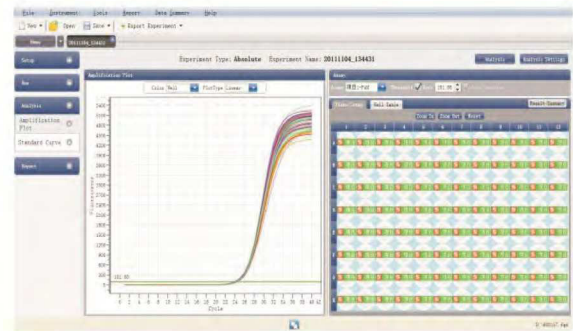




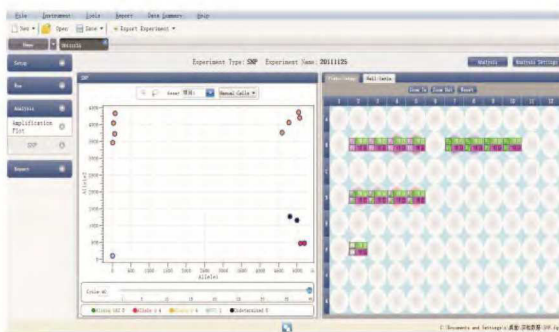
## Interface Introduction:



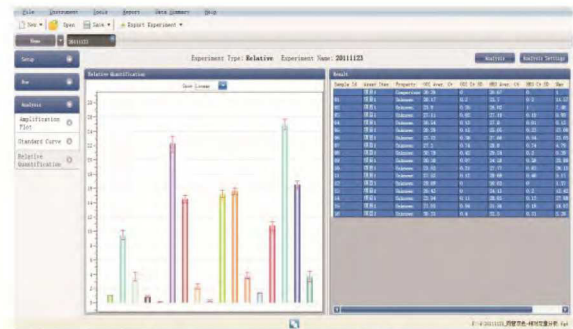
Well and Dye Setting



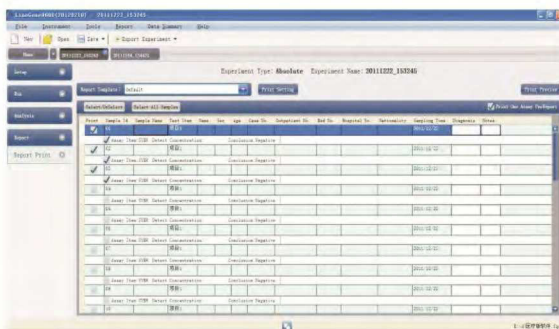
Quantitative Analysis



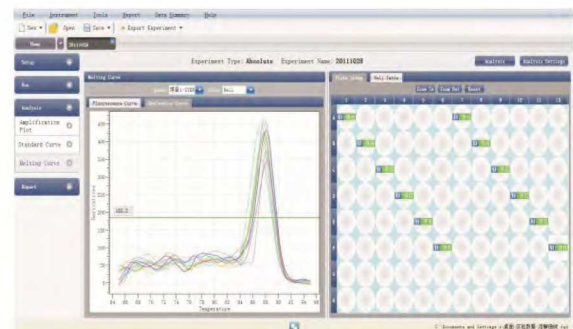
SNP Interface



Relative quantification



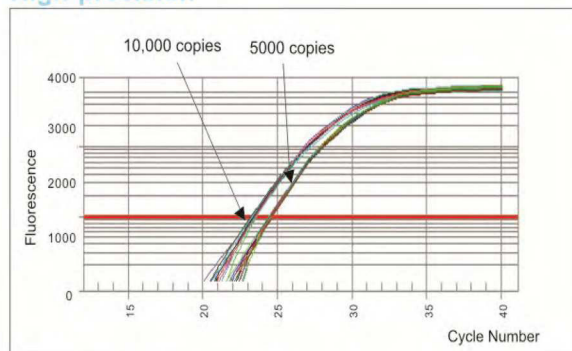
Report



Melting Curve Analysis

## Software:

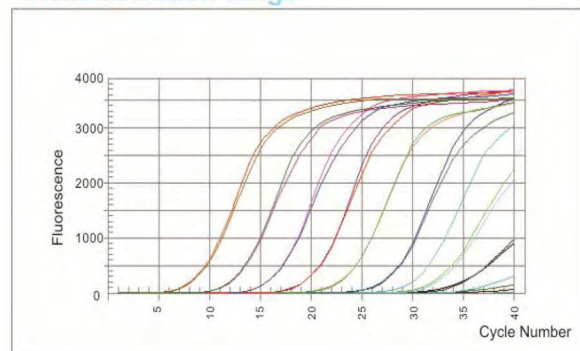
## High precision



## SNPs Detection

Line-Gene system is a multicolor fluorescence detection system and can carry out the detection analysis of SNPs.

## Wide detection range



## Specification:

| Model                                | 9620  | 9640  | 9660   | 9680  |
|--------------------------------------|---|---|--|---|
| Sample Capacity                      | 96-Well PCR plate, 12×8-strip,<br>96×0.2ml (Bottom Transparent)   |   |  |   |
| Dynamics Range                       | 1~10 <sup>10</sup> Copies   |   |  |   |
| Excitation Wavelength                | 300-800nm   |   |  |   |
| Emission Wavelength                  | 500-800nm   |   |  |   |
| Detected Fluorescence                | F1:FAM, SYBR Green I<br>F2:VIC, HEX, TET, JOE   | F1:FAM, SYBR Green I<br>F2:VIC, HEX, TET, JOE<br>F3:CY3, NED, TAMRA,<br>F4:ROX, TEXAS-RED | F1:FAM, SYBR Green I;<br>F2:VIC, HEX, TET, JOE,<br>Cy3, NED, TAMRA;<br>F3:ROX, TEXAS-RED;<br>F4:CY5;<br>F5:CY5<br>F6:CY5.5 | F1:FAM, SYBR Green I<br>F2:VIC, HEX, TET, JOE<br>F3:CY3, NED, TAMRA,<br>F4:ROX, TEXAS-RED<br>F5:CY5<br>F6:CY5.5<br>F7,F8 for Customized |
| Block Temp. Range                    | 4 ~ 105 °C (Minimum Increment : 0.1 °C )<br>SOAK Low Temp. Conservation Function  |   |  |   |
| Heating/Cooling Rate                 | 4.0 °C /s   |   |  |   |
| Temp.Control Accuracy                | ≤±0.1 °C  |   |  |   |
| Temp. Fluctuation                    | ≤±0.1 °C  |   |  |   |
| Temp. Uniformity                     | ≤±0.3 °C  |   |  |   |
| Temp. Control Mode                   | BLOCK/Tube Simulation Mode (Automatic Control Based On Sample Volume )  |   |  |   |
| Sample Volume Range                  | 5~100μL   |   |  |   |
| Gradient Temp. Range                 | 1~36 °C   |   |  |   |
| Hot-lid Temp. Range                  | 30 ~ 110 °C (Adjustable , Default 105°C , Automatic Hot-lid)  |   |  |   |
| Fluorescence Detection Repeatability | 5 %   |   |  |   |
| Scan Mode                            | Entire Plate or Designated Line   |   |  |   |
| Program                              | Max 20 Segments for Each Program, Max 99 Cycles   |   |  |   |
| Operation Mode                       | Continuous  |   |  |   |
| Scan Period                          | 5.5s ( F1/F2 96 Plate Scan )  |   |  |   |
| Feature Function                     | Absolute Quantification 、 Relative Quantification 、 SNP Analysis;<br>Data Automatic Analysis;Melting Curve;Gradient、 Automatic Gain、<br>Customized;Multiple File Gene Expression Analysis |   |  |   |
| Operation System                     | Microsoft : Windows2000/XP/vista/windows 7/windows 8<br>(Compatible with 64 - bit operating system) Software : Excel2003/2007   |   |  |   |
| PC Configuration                     | Memory:512M Hard Disk:10GB CPU: Pentium® 4 Virtual Memory: ≥1000MB  |   |  |   |
| Power Supply                         | 100-240V ~ 50/60Hz 600W   |   |  |   |
| Dimension (L×W×H)                    | 430mm×395mm×352 mm  |   |  |   |
| Net Weight                           | 28kg  |   |  |   |
| Socket                               | USB Adapter , RS232C Adapter ( Optional ), Blue Tooth Adapter ( Optional )  |   |  |   |
| Certificates                         | Ferrotec Pelitier / MET / CE / RoHS / CE-IVD  |   |  |   |



# Line-Gene K

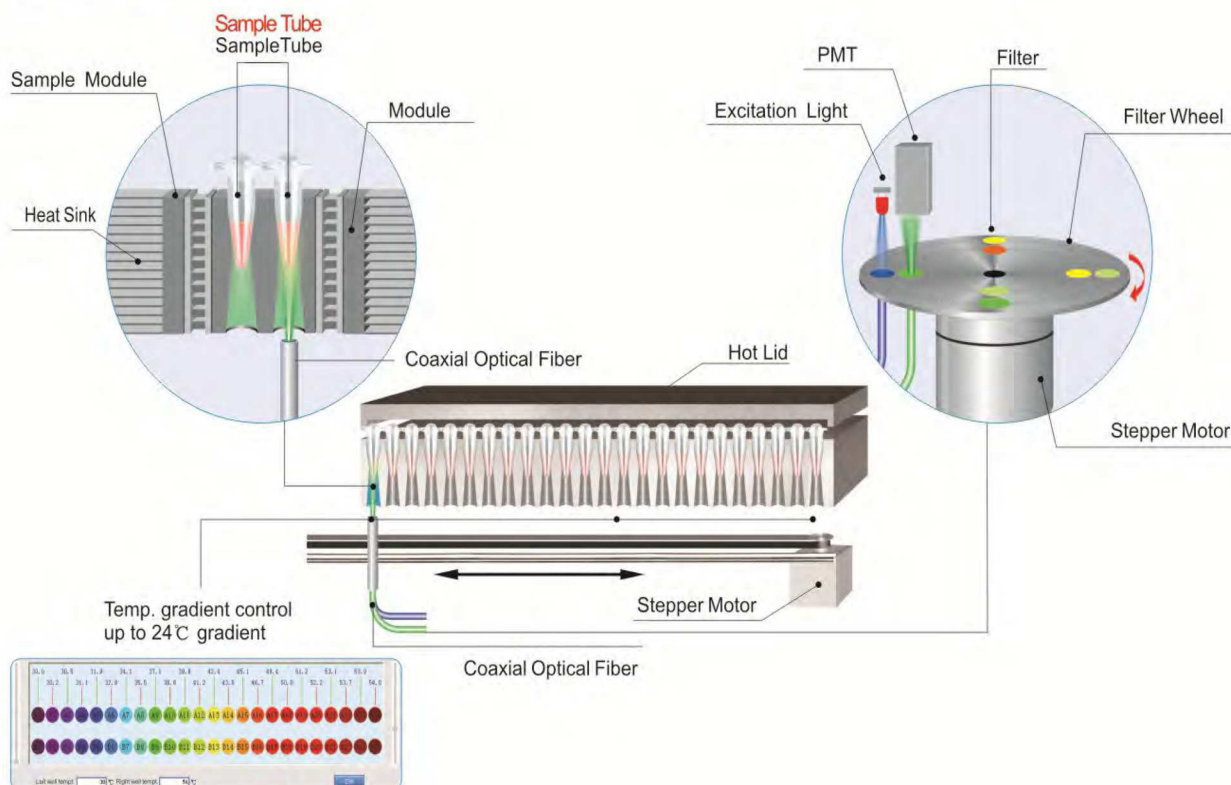


Line-Gene K features more advanced implementations of Peltier and fiber optic technology and a new direct current power system.

The new instruments share the Peltier effect and fiber optic design features that provide the exceptional accuracy and stability of the Line-Gene instruments. The new units offer improved uniformity, stability and accuracy by utilizing a constant-current power supply and an advanced multi-point temperature control module. The Line-Gene K has improved temperature control and more uniform heating throughout the sample block to improve the accuracy of PCR detection.

The Line-Gene K series is available in a range of automated and manual models with the ability to handle one, two, three or four combinations of excitation and emission wavelengths.

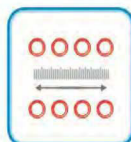
## Working principle



# 13 items Just for you!



Volume adaptation—software automatically adjusts heat exchange to differences in sample volumes.



New multipoint temperature monitoring allows more accurate and uniform temperature control throughout the heating block.



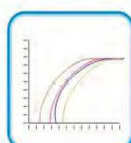
Gradient function—creates a temperature gradient across the sample block. Maximum 24°C difference between row 1 and row 24.



Sample preservation—after completion of experiment, the system can automatically refrigerate samples until they are moved to storage.



Use of direct current power supply improves thermal efficiency and reduces power consumption by 30%.



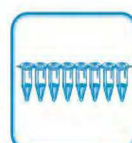
Improved optics—greater efficiency in fiber optic system provides reduced signal to noise ratio.



Automatic hot lid—provides constant pressure and software-managed temperature control.



Configuration upgradable—manual versions of the instrument can be upgraded to automatic. Systems can be upgraded from 1 wavelength to 4 wavelengths.



Multiple tube styles—the sample block will accept several styles of 0.2ml tubes including 8-tube strips.



Automatic amplitude adjustment—the instrument detects the fluorescence strength in the samples and automatically adjusts to the correct system sensitivity.



New software—a new generation of Line-Gene software provides even greater convenience and more powerful functions.



Upload software instructions—define experiment instructions with easy-to-use PC-based software, then upload to instrument.



Overheating protection—if the operating environment exceeds the temperature range for operation within specification, the instrument will shut down. At 35°C the instrument will sound a warning; it will turn off at 40°C.

## Fluorescence detection system

### Sensitivity:

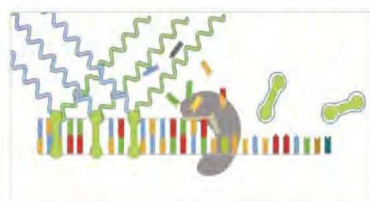
High performance PMT with high sensitivity;

Unique bottom detection mode can shorten light length and strengthen sensitivity

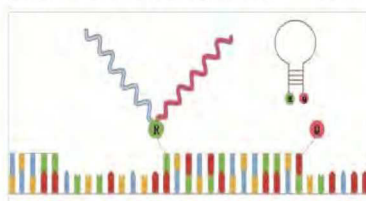
### Convenience:

Long-lived LED excitation light source does not need maintenance or preheating.

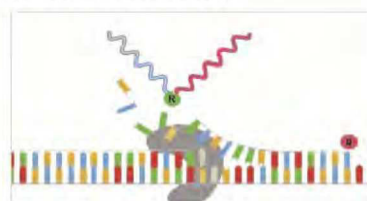
Automatically detecting and multiple groups of filters to detect many kinds of fluorescence simultaneously.



Fluorescence Dye



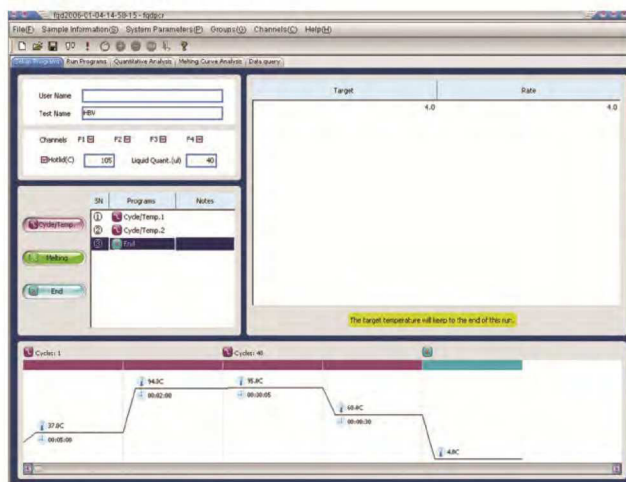
Molecular Beacon



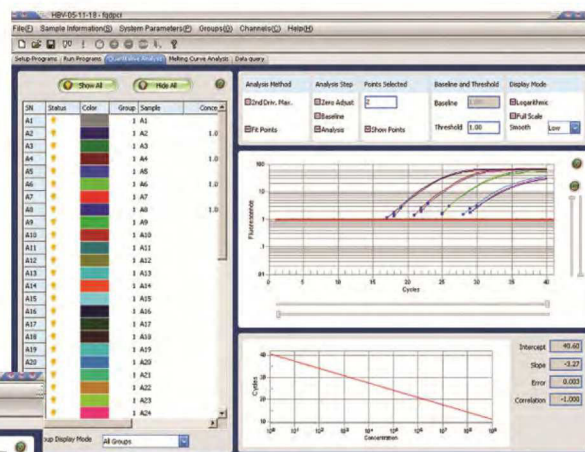
Taqman Probe



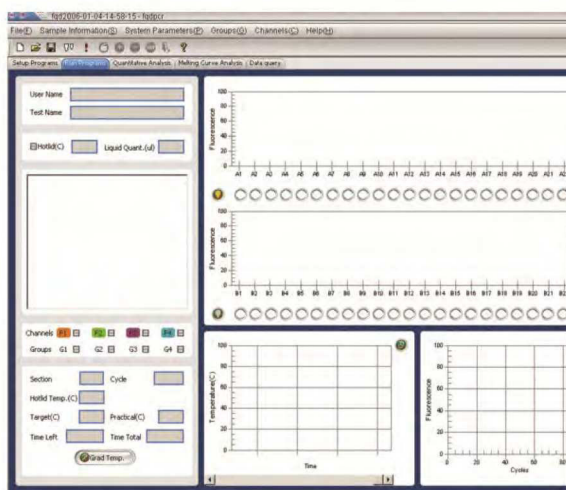
## Interface Introduction:



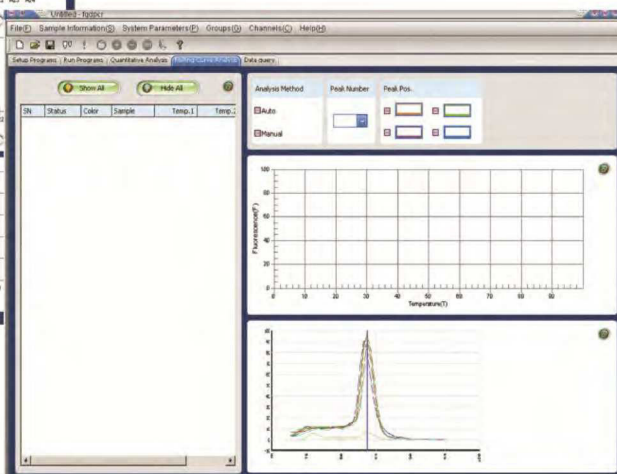
Software Programming



Quantitative analysis



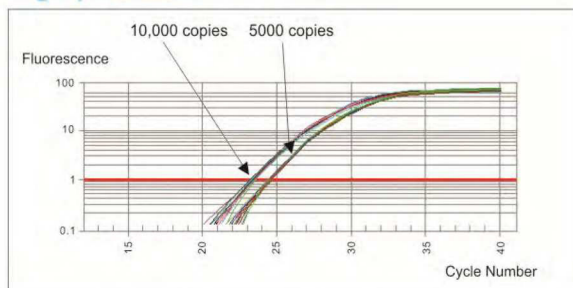
Running interface



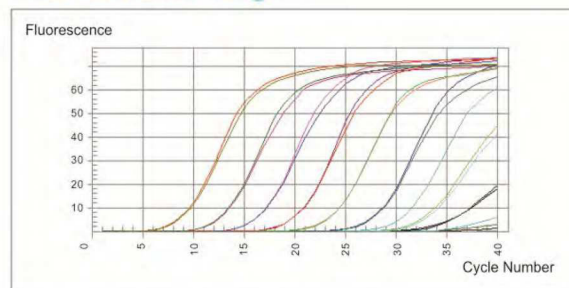
Melting curve

## Software:

## High precision



## Wide detection range



## SNPs Detection

Line-Gene system is a multicolor fluorescence detection system and can carry out the detection analysis of SNPs.

## Two kinds of data analysis methods:

| Analysis Method                                     | Analysis Step                                   | Points Selected                                 | Baseline and Threshold | Display Mode                                    |
|---|---|---|------------------------|---|
| <input checked="" type="checkbox"/> 2nd Deriv. Max. | <input checked="" type="checkbox"/> Zero Adjust | 2   | Baseline 1.00          | <input checked="" type="checkbox"/> Logarithmic |
|   | <input checked="" type="checkbox"/> Baseline    |   |                        | <input checked="" type="checkbox"/> Full Scale  |
| <input checked="" type="checkbox"/> Fit Points      | <input checked="" type="checkbox"/> Analysis    | <input checked="" type="checkbox"/> Show Points | Threshold 1.00         | Smooth Low                                      |

### 2nd Derivative Maximum:

This method automatically calculates the maximum second derivative value of every fluorescent curve and defines this value as the Ct value.

### Fit Points:

The user sets baseline and a threshold values then draws a threshold line. Based on user instructions, the software will select a number of sample points on the fluorescence curve that are above baseline and in the logarithmic phase into a line. The intersection of this line with the threshold line is defined as the Ct value.

## Specifications:

| Model   | FQD-48A(A4)<br>(A4: means automatic lid and 4 channels)                          | FQD-48A(M2)<br>(M2: means manual lid and 2 channels) |
|---|--|--|
| Sample Capacity                               | 48×0.2ml   | 48×0.2ml   |
| Sample Volume Range                           | 10~100μl   | 10~100μl   |
| Dynamics Range                                | 1~10 <sup>10</sup> Copies  | 1~10 <sup>10</sup> Copies                            |
| Max. Channel Number of Fluorescence Detection | 4 Channels   | 2 Channels   |
| Excitation Wavelength (450-590nm)             | Standard channels: F1:470nm<br>F2:523nm F3:543nm F4:571nm                        | F1: 470nm F2:523nm                                   |
| Emission Wavelength                           | Standard channels: F1:525nm<br>F2:564nm F3:584nm F4:612nm                        | F1: 525nm F2:564nm                                   |
| Detected Fluorescence                         | F1: FAM, SYBR Green I<br>F2: HEX, VIC<br>F3: TAMRA, JOE, Cy3<br>F4: TEX RED, ROX | F1: FAM, SYBR Green I<br>F2: HEX, VIC                |
| Temp. Range                                   | 4℃~99.9℃   | 4℃~99.9℃   |
| Heating Rate (Max)                            | ≥4.0℃/sec  | ≥4.0℃/sec  |
| Cooling Rate (Max)                            | ≥4.0℃/sec  | ≥4.0℃/sec  |
| Temp. Uniformity of Block                     | ≤±0.3℃   | ≤±0.3℃   |
| Temp. Control Accuracy                        | ≤±0.1℃   | ≤±0.1℃   |
| Gradient Temp. Range                          | 1℃~24℃   | 1℃~24℃   |
| Hot-lid Temp. Range                           | 80℃~110℃   | 80℃~110℃   |
| Operation System                              | Windows 2000/XP  | Windows 2000/XP                                      |
| Power Supply                                  | AC110~220V 50Hz/60Hz 650W  | AC110~220V 50Hz/60Hz 650W                            |
| Dimension (mm)                                | 520×450×320(L×W×H)   | 520×450×320(L×W×H)                                   |
| Net Weight                                    | 25kg (Without Computer)  | 25kg (Without Computer)                              |
| Certificates                                  | Ferrotec Pelitier / MET/ CE/ RoHS / CE-IVD                                       |  |

\* Totally new software will come soon, more powerful, more smart, easy to use.