



# Line-Gene K

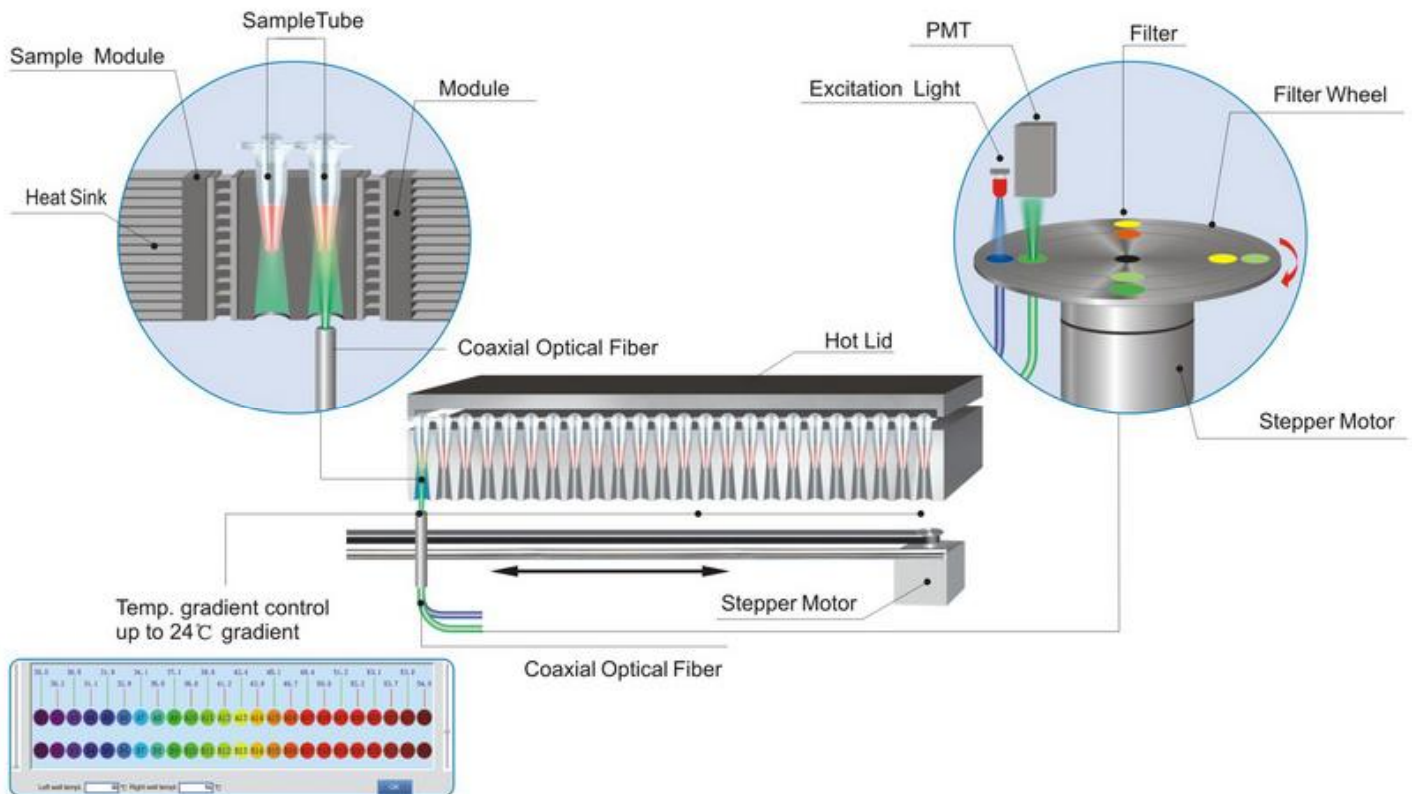


Line-Gene K is the newest system in range of PCR detection systems. It features more advanced implementations of Peltier and fiber optic technology and a new direct current power system.

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.

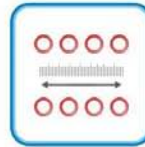
## Working principle



# 15 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.



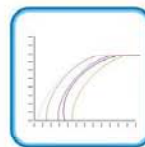
Gradient function— creates a temperature gradient across the sample block. Maximum 24°C difference between row 1 and row 24.



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.



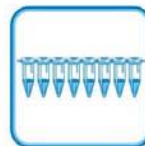
Automatic hot lid—provides constant pressure and software-managed temperature control.



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



Numerous data ports— choose from serial (RS 232), USB and ethernet connections for PC data interface.



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



Data protection— system preserves experimental data if there is a power interruption during operation.



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-Gen software provides even greater convenience and more powerful functions.

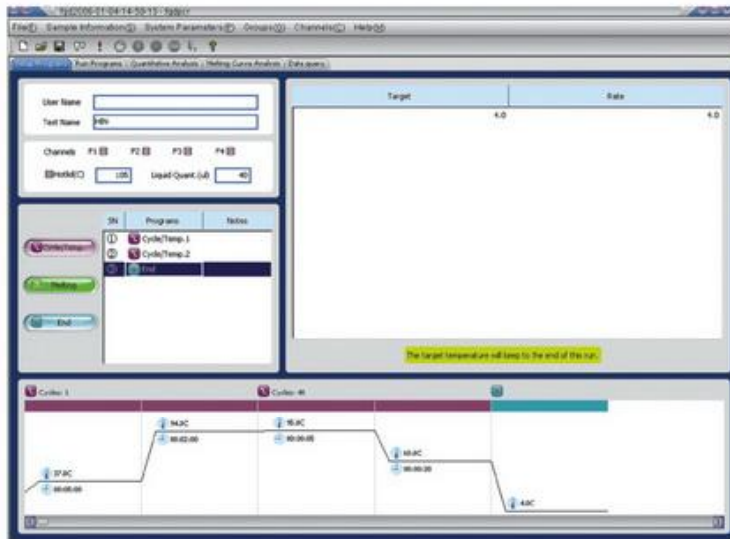


Upload software instructions— define experiment instructions with easy-to-use PC-based software, then upload to instrument.

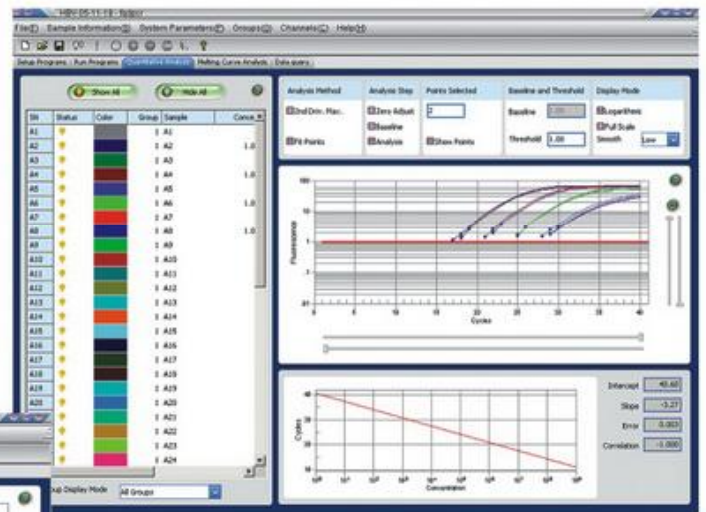


Overheating protection— if the operating environment exceeds the temperature range for operation within specification, the instrument will shut down. At 35°C the instrument will sound a warning; it will turn off at 40°C.

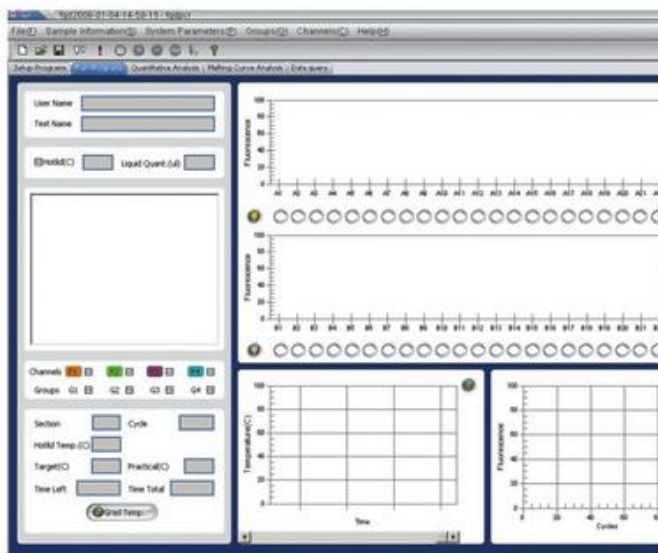
## Interface Introduction:



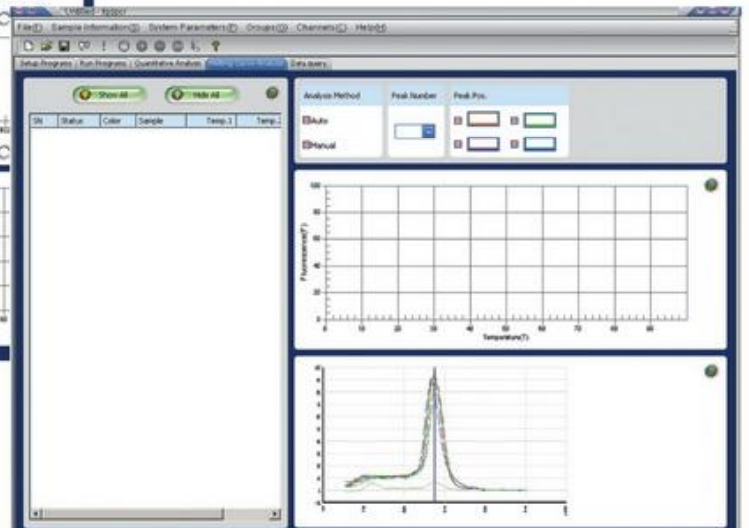
Software Programming



Quantitative analysis



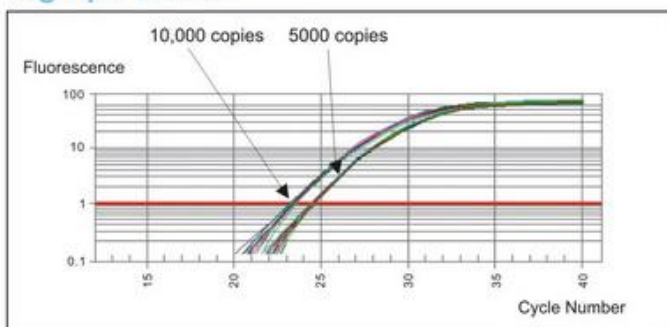
Running interface



Melting curve

## Software:

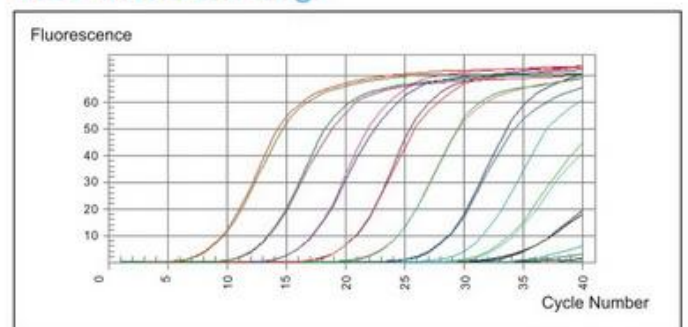
### High precision



### SNPs Detection

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

### Wide detection range



## 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	<input type="text" value="2"/>	Baseline <input type="text" value="1.00"/>	<input checked="" type="checkbox"/> Logarithmic
<input checked="" type="checkbox"/> Fit Points	<input checked="" type="checkbox"/> Baseline	<input checked="" type="checkbox"/> Show Points	Threshold <input type="text" value="1.00"/>	<input checked="" type="checkbox"/> Full Scale
	<input checked="" type="checkbox"/> Analysis			Smooth <input type="text" value="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) (A4: means automatic lid and 4 channels)	FQD-48A(M2) (M2: means manual lid and 2 channels)
Sample Capacity	48 × 0.2ml	48 × 0.2ml
Sample Volume Range	10–100 μl	10–100 μl
Dynamics Range	10–10 <sup>10</sup> Copies	10–10 <sup>10</sup> Copies
Max. Channel Number of Fluorescence Detection	4 Channels	2 Channels
Excitation Wavelength (450-590nm)	Standard channels: F1:470nm F2:523nm F3:543nm F4:571nm	F1: 470nm F2:523nm
Emission Wavelength	Standard channels: F1:525nm F2:564nm F3:584nm F4:612nm	F1: 525nm F2:564nm
Detected Fluorescence	F1: FAM, SYBR Green I F2: HEX, VIC F3: TAMRA, JOE, Cy3 F4: TEX RED, ROX	F1: FAM, SYBR Green I F2: HEX, VIC
Temp. Range	4°C~99.9°C	4°C~99.9°C
Heating Rate (Max)	≥4.0°C/sec	≥4.0°C/sec
Cooling Rate (Max)	≥4.0°C/sec	≥4.0°C/sec
Temp. Uniformity of Block	≤±0.3°C	≤±0.3°C
Temp. Control Accuracy	≤±0.1°C	≤±0.1°C
Gradient Temp. Range	1°C~24°C	1°C~24°C
Hot-lid Temp. Range	80°C~110°C	80°C~110°C
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)

\* The end user can customize the channels number according to his requirements when he places an order.