

Thermo module specifications

Thermal cycling system	Peltier-based system
Block format	96-well block
Supported volumes	20 ~ 50 μ l
Sample capacity	Semi-skirted 96-well plate or 0.1ml tubes
Ramp rate	Heat 3.0°C/sec, Cool 3.0°C/sec
Dynamic range	1 ~ 10 ⁸ copies
Temperature range	4.0 ~ 100.0°C
Heat-lid temperature range	110.0 ~ 115.0°C
Temperature accuracy	± 0.3°C
Temperature uniformity	± 0.5°C

Optics module specifications

Excitation/Emission wavelength	430 ~ 720nm
Detected fluorescence	Customizable according to customer requests
Excitation	High performance LEDs
Scan type	Fixed CCD Camera

System specifications

External interface	Power switch & port, 1394 port (Camera Port), RS 232 Port 1EA
Power supply (SMPS)	Input : AC 100 – 240V, 50/60 Hz Output : DC 24V, 44A (1056W)
Power consumption	Max 720W : @PCR Cycling
Dimensions(mm)	362(W) x 432(L) x 556(H)
Measurement program	K-Qube run & K-Qube analysis
Weight(Kg)	26.0

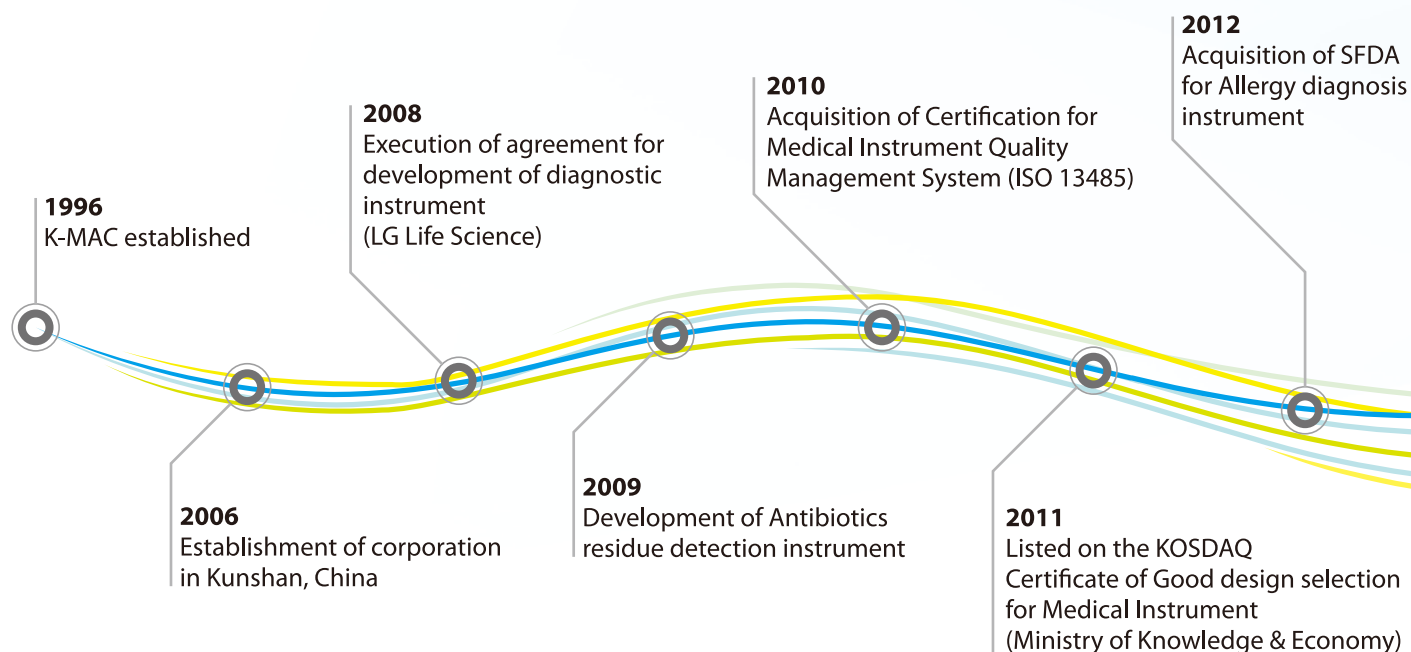


K-Qube
K-MAC REAL-TIME PCR

K-Qube

K-MAC's Quantitative-Universal-Brilliant-Efficient Real-time PCR System

The K-Qube is K-MAC's new real-time PCR cyclers that monitors gene amplification progress in real-time. Real-time PCR becomes more and more important in almost all laboratories and diagnostic fields. To meet the demand of real-time PCR, we have launched K-Qube with the advanced technologies and the newest materials. It makes you get reliable results quickly with the outstanding temperature control and sensitive optical system. In addition, K-MAC's real-time PCR software is designed to be user-friendly and convenient. The excellent K-Qube will be the best partner for a variety of critical experimental requirements.



Comprehensive Applications

Support various real-time PCR applications.

DNA

Cancer

Virus

mRNA

Bacteria

miRNA



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Max 96-well plate

You can run 1 to 96 samples at once. It is convenient to select only one PCR tube, 8-strip or 96-well plate.



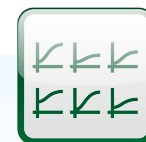
High-resolution CCD camera

K-Qube brings you the sensitive and reliable data using high-resolution camera.



Outstanding thermal cycler

The advanced Peltier cycler with precise control technology provides the highest temperature accuracy. It brings you rapid, accurate and stable results.



Max 6-channel detection

We can provide up to 6 detection channels using different kinds of reagents. In addition, you can select the number and kind of filters depending on the experiment condition.



Easy-to-use software

User-friendly software allows you to acquire, analyze and manage data quickly. It is a very easy-to-use and customizable system.



Various applications

Meet the requirements of the latest quantitative PCR including genotyping and gene expression analysis.



Long-life LED-based optical system

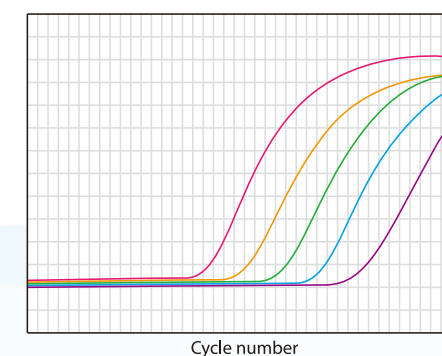
Detect the smallest samples accurately with the high-performance LED. This cost-effective and long-lasting system reduces the number of times being replaced of light source.



Experienced customer service

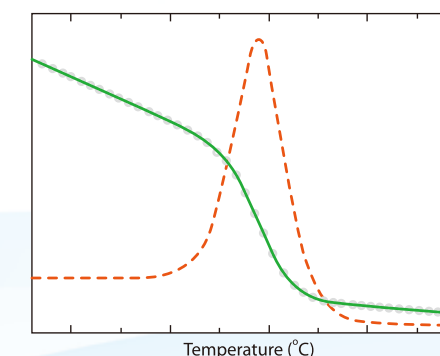
K-MAC's experienced customer service system always provides the best service to make the instrument in the best condition.

Quantitative Analysis



DNA amplification curve shows different Ct values according to the difference among the initial amounts of DNA. It is inversely correlated to the log of the initial copy number. We can make the standard curve using serial diluted standards from known concentration. This allows the determination of the concentration of unknowns based on their Ct values.

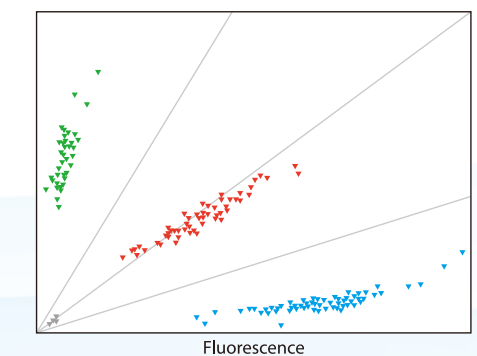
Melting Curve Analysis



Melting curve analysis can distinguish products of the same length but different AT/GC ratio due to differences in AT/GC hydrogen bond of DNA. The melting curve is measured after the completion of the last PCR cycle and increasing the temperature leads to melting of the dsDNA strands and separation of fluorescence dyes from dsDNA. Fluorescence dyes have their own temperature unit according to the changes of fluorescence.

We can study DNA sequences, length of sample DNA through identifying differentiation of DNA fluorescence per a delicate temperature.

SNP genotyping



A single nucleotide polymorphism (SNP) is a DNA polymorphism at the level of a single nucleotide. Real-time PCR has been investigated as one of the platforms to perform SNP genotyping. To perform SNP genotyping, two specific probes labelled with different dyes are used. Probes are well designed for their own features, we analyze the difference of fluorescence and study SNPs, gene-based mutant expressions.