

# Fluorescent Quantitative PCR Detection System



### Introduction:

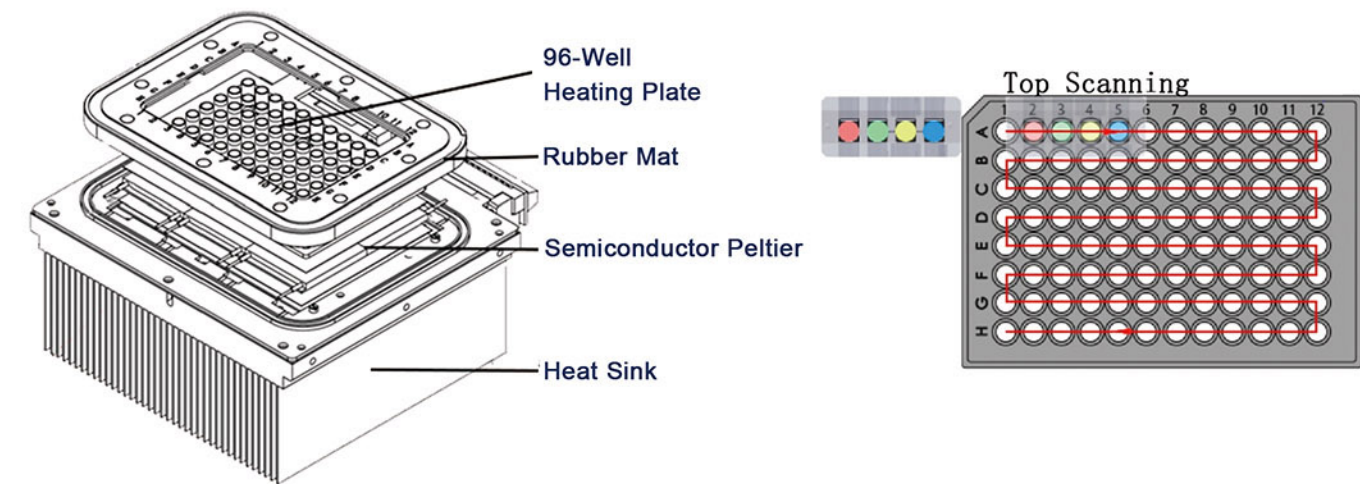
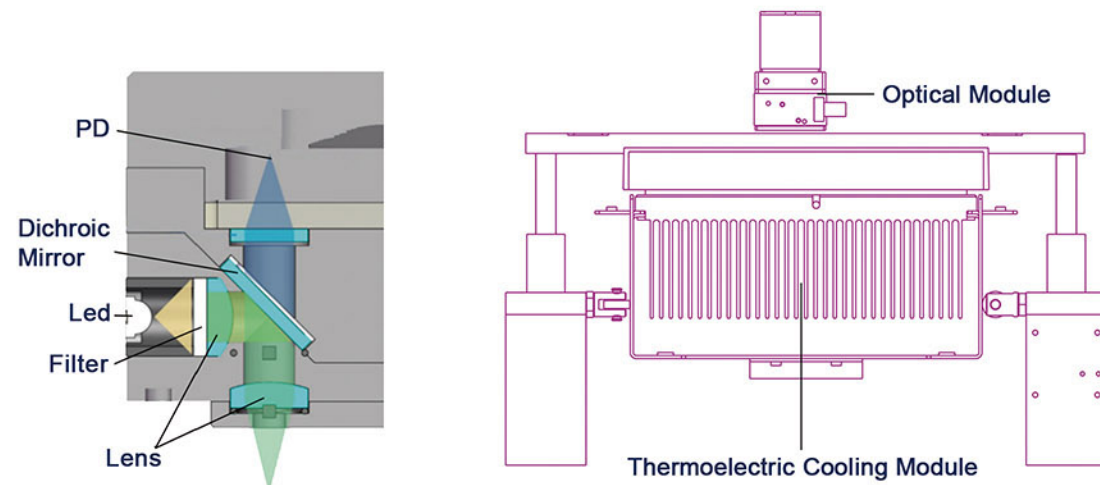
Real-time PCR is used for sensitive, specific detection and quantification of nucleic acid targets. We have developed powerful assay design algorithms, optimized qPCR reagent, intuitive data analysis software, and flexible instrumentation to help harness the power of qPCR across a rich and diverse set of applications. Explore our robust solutions for your qPCR-based research.

### Application:

It can be widely used in infectious disease research, food pathogen detection, waterborne pathogen detection, drug analysis, stem cell research, pharmacogenomics research, tumor and genetic disease research, plant science and agricultural biotechnology.

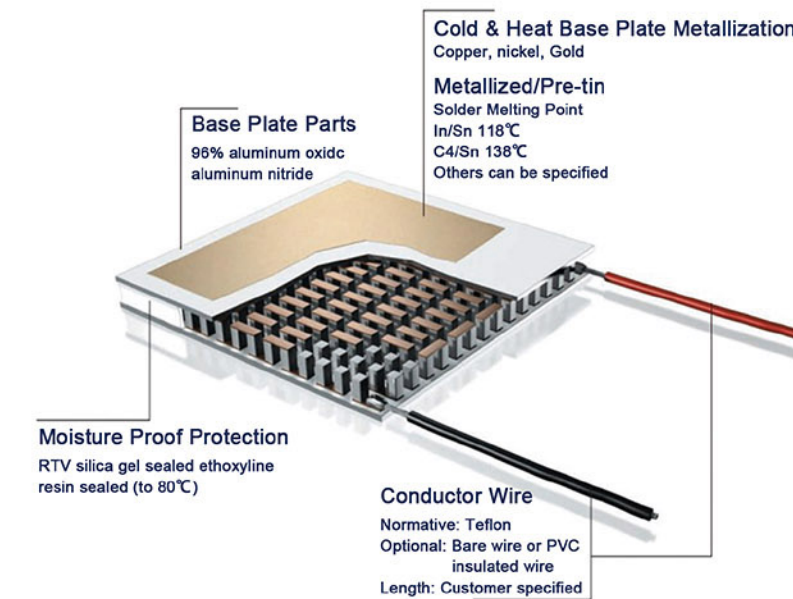
### Working Principle:

The temperature step change is controlled by the semiconductor Peltier to realize PCR amplification. Use high-sensitivity PD unit to detect fluorescence; Program control channel switching, non-contact excitation/detection on the top structure, coordinated with motor control X and Y axis movement to achieve 96-hole scanning. Finally, accurate analysis is carried out through powerful software.



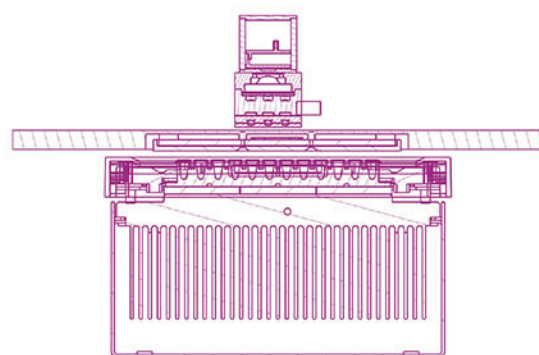
### Features:

- ①. Excellent temperature control performance of the instrument, Module Max heating rate/heating rate 7.0°C/s.
- ②. No edge effect, no optical path correction, top excitation/detection, non-contact measurement.
- ③. Fluorescence detection adopts PD sensor with high sensitivity.
- ④. Long-life LED light source, stable emission wavelength, maintenance-free.
- ⑤. 4/6-channel fluorescence detection, no cross interference between channels.
- ⑥. User-friendly and fully functional software, flexible program setting, comprehensive analysis and reporting functions, all the parameters can be stored.



### Real-time PCR Hardware:

Thermoelectric cooling module (TEM) is a semiconductor device composed of many tiny and effective heat pumps. By applying a low-voltage DC power supply, heat will be transferred from one side of the TEM to the other side, resulting in a phenomenon that one side of the TEM becomes hot and the other side becomes cold. Since this phenomenon is completely reversible, when the polarity of the DC power supply is changed, it will be affected. Shift in the opposite direction. This product adopts a long-life series TEM, which provides longer life and more efficiency during thermal cycling.



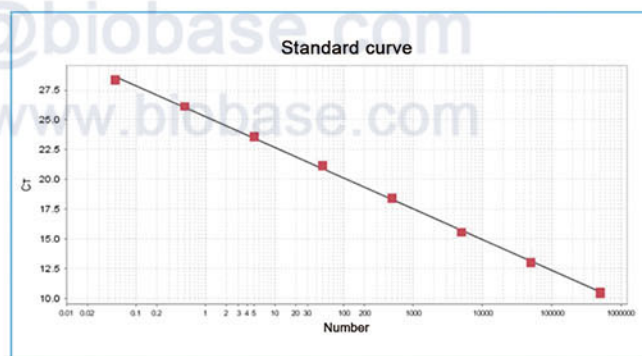
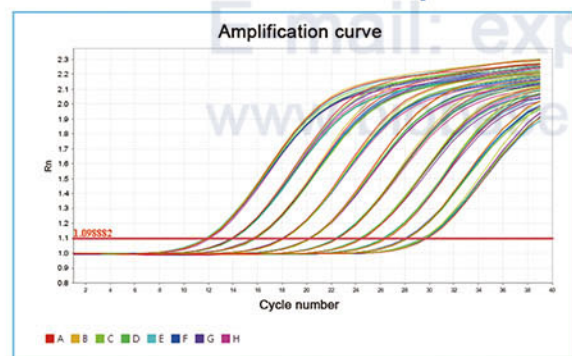
The integrated design of the scanning module and the heating cover module, relying on its own gravity to compress the heating plate and the reagent cover, and is supported by four compression springs to prevent the sample tube from being crushed; at the same time, the rubber pad around the heating cover is pressed to ensure that there is no external light source interference in the detection ; The bottom of the cam mechanism is used to support the spacing to ensure the smooth sliding of the heating module; the guide rail mechanism on both sides of the heating module prevents the module from shifting and ensures the accuracy of the mechanical scanning structure.

**Real-time PCR Software:**

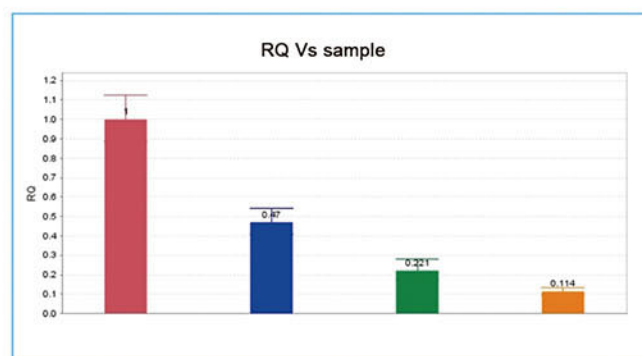
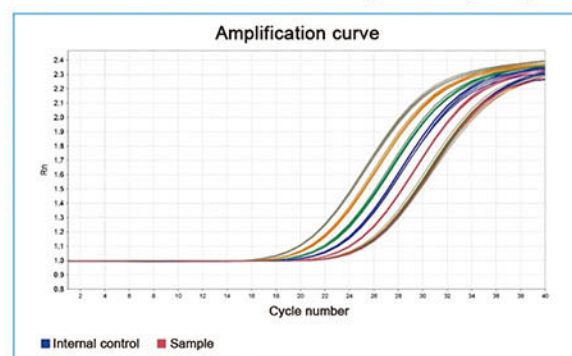


The software includes functions such as absolute quantification experiment, melting curve experiment, relative quantification (AACT) experiment, and genotyping experiment. Enter the attribute setting interface and select different function modules. Guided flow operation, convenient for users to quickly complete experimental settings. The software can open the recent experiment record template for easy viewing of recent experiments and the creation of new experiments.

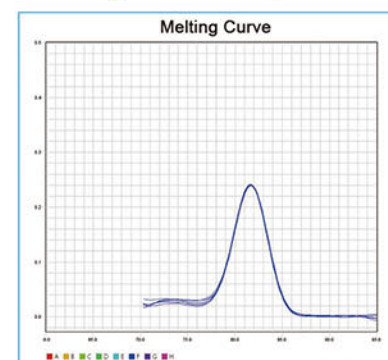
**Absolute Quantification Experiment:**



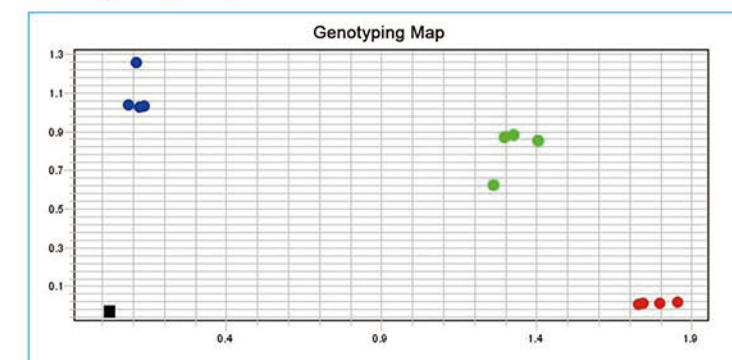
**Relative Quantification (AACT) Experiment:**



**Melting Curve Experiment:**



**Genotyping Experiment:**



**Parameters:**

| Model                                | LEIA-X4   | LEIA-X6   |
|--------------------------------------|---|---|
| Sample Capacity                      | 96*0.1ml PCR plate, 12*8-strip tubes, 96*0.1ml single tube (Transparent Cover)                                |   |
| Reaction System                      | 5~50µl  |   |
| Dynamics Range                       | 1~10 <sup>10</sup> copies   |   |
| Channel                              | 4   | 6   |
| Emission Light                       | LED   |   |
| Detector                             | PD  |   |
| Detection Path                       | F1: FAM/SYBR GREEN;<br>F2: VIC/JOE/HEX/TET;<br>F3: ROX/TEXAS RED;<br>F4: Cy5                                  | F1: FAM/SYBR GREEN;<br>F2: VIC/JOE/HEX/TET;<br>F3:CY3; F4: ROX/TEXAS RED;<br>F5: CY5; F6: CY5.5 |
| Excitation Wavelength                | 455~650nm   | 455~685nm   |
| Detection Wavelength                 | 510~710nm   | 510~740nm   |
| Fluorescence Detection Repeatability | CV≤3%   |   |
| Fluorescence Detection Accuracy      | CV≤5%   |   |
| Fluorescence Detection Linearity     | r≥0.995   |   |
| Module Temp. Range                   | 4~105°C   |   |
| Ramp Rate                            | 7.0°C/s(max)  |   |
| Temp. Accuracy                       | ±0.5°C  |   |
| Temp. Uniformity                     | ≤±1°C   |   |
| Temp. Control Mode                   | Block and tube  |   |
| Gradient Temp. Range                 | It can be set within the temperature range of 30°C to 105°C, with a temperature gradient span of 1°C to 36°C  |   |
| Hot-Lid Temp. Range                  | 100°C, automatic hot-lid  |   |
| Scanning Mode                        | Top scanning  |   |
| Operation Mode                       | Continuous  |   |
| Scanning Time                        | 8.5s  |   |
| Special Function                     | Absolute quantitative automatic analysis, relative quantification, SNP Analysis, melting curve analysis, etc. |   |
| Operation System                     | Microsoft: Windows 10   |   |
| Port Method                          | USB Port  |   |
| Power Supply                         | AC100~240V, 50/60Hz   |   |
| Dimension(W*D*H)                     | 375*505*375mm   |   |
| Net Weight                           | 28kg  |   |
| Packing Size(W*D*H)                  | 645*565*605mm   |   |
| Gross Weight                         | 49kg  |   |