

# Archimed R4 Real Time PCR

The Archimed R4 is a time-resolved real-time fluorescence quantitative PCR instrument. It features a new optical system based on Fresnel lenses, patented time-resolved signal acquisition technology, and unique temperature control technology. The Archimed R4 offers high detection sensitivity, superior temperature control accuracy and uniformity, convenient operation, and comprehensive analytical capabilities.



## Archimed R4 Performance Specifications

Detection Sensitivity	1 copy of target sequence		
System Sensitivity	Detect 1.33-fold target differences in singleplex reactions		
Linear Dynamic Range	10 orders of magnitude (1-10 <sup>10</sup> copies)		
Sample Detection Reproducibility	Ct value CV ≤ 0.5% or Ct SD ≤ 0.1		
Sample Linearity	r  ≥ 0.98 or r <sup>2</sup> ≥ 0.99		
Multiplex Analysis Performance	Simultaneously detect 5 targets		
Applications	Gene Expression Analysis Pathogen Detection Food Microbial Detection	Genotyping GMO Detection Genetic Analysis	Gene Mutation Detection Protein Thermal Stability Analysis
Data Analysis	Absolute Quantification, Relative Quantification, Qualitative Analysis, Melting Curve, High-Resolution Melting Curve (HRM), Endpoint Fluorescence Analysis, Genotyping (SNP), Protein Thermal Stability		

## Archimed R4 Hardware Specifications

Block Capacity	96
Sample Volume	5-100µl
Heating/Cooling Method	Peltier (6 temperature control modules)
Temperature Control	Hollowed Module with Edge Temperature Compensation
Heated Lid	Electronic Automatic Heated Lid (adjustable from room temperature to 115°C)
Maximum Block Ramp Rate	≥ 6.0°C/s
Average Samples Ramp Rate	≥ 3.0°C/s
Temperature Setting Range	4-100°C
Temperature Accuracy	≤ ± 0.1°C
Temperature Uniformity	≤ ± 0.1°C
Temperature Gradient Range	30-100°C
Temperature Gradient Number	12 columns
Temperature Difference Range	1-40°C
Reaction time	< 30 mins (Depending on reaction reagents)

## Archimed R4 Hardware Specifications

Excitation Light Source	5 Long-life, high-performance LEDs
Detection Device	High-sensitivity silicon photomultiplier (MPPC)
Scanning Method	Time-resolved real-time scanning
Detection Time	Standard mode (all channels): 8.5 seconds/96-well plate; Fast mode (dual FAM): 4 seconds/96-well plate
Fluorescence Reading Position	Top-read
Number of Fluorescence Channels	5
Fluorescence Wavelength Range	Excitation range: 455-680nm    Detection range: 510-730nm
Supported Dyes	F1: FAM/SYBR Green I    F2: VIC/HEX/TET/JOE    F3: ROX/Texas Red F4: Cy5/LIZ                      F5: FAM/SYBR Green I or FRET or ATTO 425
Data Communication	USB
Computer Configuration	Windows desktop or laptop
Device Dimensions	52 × 35 × 37 cm (Length × Width × Height)
Device Weight	25kg
Operating Temperature	5-32°C
Operating Humidity	≤85%
Operating Voltage	100-240 VAC, 50-60 Hz

## Archimed R4 Software Specifications

Bundled Software	Archimed Analyzer
Program Operation	Template importable or Customization
MIQE Guidelines	Compliance
Data Export	Reports can be exported in CSV, Excel, and TXT formats, with customizable options including experimental attributes, run settings, data, and raw results.

## Ordering Information

Product Model	Catalog Number	System Configuration
Archimed R4	101001003	1 main unit, 1 computer workstation, 1 software package, 1 set of power and data cables, 1 set of product and user manuals



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