

QuantStudio 3 and 5 Real-Time PCR Systems

The Applied Biosystems™ QuantStudio™ 3 Real-Time PCR System is an affordable, high-performance real-time PCR solution designed for users of all experience levels. With an interactive touch screen interface, intuitive instrument software, and preoptimized protocol templates, the system offers excellent performance and quality.

software with security, auditing, and e-signature features assists with 21 CFR Part 11 compliance and increased security to help ensure your run and data are protected.



The Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System features more options to customize your reactions and is available with either a 96- or 384-well thermal block. Additional filter channels and six temperature block zones* allow ultimate control over cycling conditions. Desktop

Both systems feature web browser-based or desktop analysis options and leverage the power of Connect, our cloud-based platform, to help you stay connected to your data anywhere and anytime you are online.

System performance specifications			
Dye compatibility	QuantStudio 3 and 5 systems: FAM™/SYBR™ Green, VIC™/JOE™/HEX™/TET™, ABY™/NED™/TAMRA™/Cy®3, JUN™, ROX™/Texas Red™ QuantStudio 5 system only: Mustang Purple™, Cy®5/LIZ™, Cy®5.5		
Chemistry capabilities	Fast or standard		
Multiplexing	QuantStudio 3 system: up to 4 targets QuantStudio 5 system: up to 6 targets with 21 filter combinations for 96-well system; up to 5 targets for 384-well system		
Dynamic range	10 logarithmic units		
Sensitivity (resolution)	Detect differences as small as 1.5-fold in target quantities in a singleplex reaction		
Sensitivity (number of copies)	1 copy		
Research areas	Infectious diseases Pathogen detection Translocation analysis Viral load analysis	Drug metabolism Plant sciences Agricultural biotechnology Oncology	Inherited diseases Epigenetics Synthetic biology Stem cells
Key applications	Gene expression analysis Copy number variation analysis High-resolution melt	SNP genotyping Mutation scanning Mutation detection	Protein thermal shift MicroRNA profiling Methylation analysis
System specifications			
Dimensions and weight	27 x 50 x 40 cm (W x D x H), <26 kg		
Sample capacity (wells)	QuantStudio 3 system: 96 (0.1 mL and 0.2 mL blocks available) QuantStudio 5 system: 96 (0.1 mL and 0.2 mL blocks available) or 384		
Reaction volume	QuantStudio 3 system: 10–30 µL for 96-well 0.1 mL block; 10–100 µL for 96-well 0.2 mL block QuantStudio 5 system: 10–30 µL for 96-well 0.1 mL block; 10–100 µL for 96-well 0.2 mL block; 5–20 µL for 384-well block		
Maximum ramp rate	QuantStudio 3 system: 9.0°C/sec for 0.1 mL block; 6.5°C/sec for 0.2 mL block QuantStudio 5 system: 9.0°C/sec for 0.1 mL block; 6.5°C/sec for 0.2 mL block; 6.0°C/sec for 384-well block		
Average sample ramp rate	QuantStudio 3 system: 4.81°C/sec for 0.1 mL block; 3.66°C/sec for 0.2 mL block QuantStudio 5 system: 4.81°C/sec for 0.1 mL block; 3.66°C/sec for 0.2 mL block; 2.92°C/sec for 384-well block		
Temperature uniformity	0.4°C		
VeriFlex™ Blocks	QuantStudio 3 system: 3 independent temperature zones QuantStudio 5 system: 6 independent temperature zones for 96-well block; not applicable for 384-well block		

* Available on 96-well format only.

System specifications (continued)

Heating and cooling method	Peltier
Run time	Less than 30 min
Calibration	Factory-calibrated
Onboard memory	10 GB, which translates to approximately 2,000–5,000 run files
Electrical approvals	IEC, CE
Excitation (light source)	Bright white LED
Filters or colors	QuantStudio 3 system: 4 coupled filters QuantStudio 5 system: 6 decoupled filters with up to 21 combinations for 96-well system; 5 coupled filters for 384-well system
Excitation and detection range	QuantStudio 3 system: 450–680 nm and 500–640 nm QuantStudio 5 system: 450–680 nm and 500–730 nm for 96-well system; 450–650 nm and 500–700 nm for 384-well system
Data acquisition	Whole-plate imaging
Touch screen	Interactive touch screen with real-time application viewing
Online ecosystem	Cloud-based Connect
Communication interface	Cloud-based Connect, USB, or Wi-Fi
External devices	2D barcode reader via USB connection
System configuration	Stand-alone, PC-connected, or direct connection to cloud-based Connect via LAN or Wi-Fi
International standards	ISO 13485

Software specifications

Cloud design and analysis software	Desktop option using Microsoft™ Windows™ 7 or Windows 10 operating systems Web browser-based software option; run on PC or Mac™ computer
Run programming options	Preoptimized protocol templates or ability to customize Programmable and manual pause Locked workflows
Chinese language software	Available
MIQE compliance	Real-time PCR data markup language (RDML) export format
Features to assist with 21 CFR Part 11 compliance	QuantStudio 5 system: security, auditing, and e-signature; no additional fees or licenses required
Single-plate analysis	Absolute and relative gene expression analysis, SNP genotyping, presence or absence, and high-resolution melt
Multiplate analysis	Gene expression analysis, SNP genotyping

Ordering information

Product	Cat. No.
QuantStudio 3 Real-Time PCR System, 96-well, 0.1 mL block*	A28136
QuantStudio 3 Real-Time PCR System, 96-well, 0.2 mL block*	A28137
QuantStudio 5 Real-Time PCR System, 96-well, 0.1 mL block*	A28138
QuantStudio 5 Real-Time PCR System, 96-well, 0.2 mL block*	A28139
QuantStudio 5 Real-Time PCR System, 384-well*	A28140

* Does not include computer. Additional Cat. Nos. are available that include laptop or desktop computer.

Find out more at thermofisher.com/quantstudio3-5

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