

QuantStudio Dx Real-Time PCR Instrument

- Performance you can trust.
- Security you need.
- Flexibility you want.
- A diagnostic platform that can grow with you.



Introduction

The Applied Biosystems™ QuantStudio™ Dx Real-Time PCR Instrument addresses the challenges of a clinical laboratory by combining multiple system capabilities in a single footprint without sacrificing simplicity, and by offering a platform that can accommodate a growing list of in vitro diagnostic (IVD) assays and new assay development.

Instrument

The QuantStudio Dx Real-Time PCR Instrument is designed to deliver the proven reliability, sensitivity and accuracy you expect from Applied Biosystems™ instruments, with specific features designed for the molecular diagnostic laboratory environment. The QuantStudio Dx instrument, when operated in Test Development Mode, leverages proven design elements from eight generations of Applied Biosystems real-time PCR systems and incorporates the flexibility of four user-interchangeable qPCR blocks (96-well standard, Fast 96-well, 384-well and qPCR microfluidic card), making it easier to get the high-quality results you need.

Software

The QuantStudio Dx Software supports the demands of a diagnostic workflow to streamline your laboratory processes

- IVD tests are controlled by a Test Definition Document (TDD), with predefined run and analysis parameters to help reduce setup time and programming effort.
- Reagent and sample information can be tracked by assay for quality control purposes.
- Reagents and other critical information can be entered by barcode, and sample information can be uploaded (e.g., from Microsoft™ Excel™ files) to minimize data entry errors.
- The QuantStudio Dx instrument can be configured to provide results to a laboratory information system (LIS), minimizing staff workloads.

Test Development Mode

- Supports clinical research applications and assay development.
- Allows laboratories to develop assays.
- Provides additional applications to customize protocols and analysis.

Features that help you comply with the requirements of accrediting bodies

Maintenance and calibration reports	Documents that the QuantStudio Dx Real-Time PCR Instrument has been maintained and calibrated to vendor specifications. Records are updated automatically with maintenance and calibration events and can be printed on demand.
Reagent tracking	Stores and archives information about reagents used with each test, including lot number and expiration date, with each run. Archived files can be retrieved when required, to track samples that were tested with a given set of reagents.
Sample tracking	Captures critical sample data that can be customized to fit the laboratory's needs. Tracks information such as name, accession number, and sample type. Enables laboratories to more easily track samples associated with a particular plate, set of reagents, run date/time, and data files.

Hardware specifications

Block change design	Block is changed from the front of the instrument in less than 1 minute; no tools required
Temperature uniformity	±0.5°C
Run time	For IVD tests, refer to package inserts for specific run times Run times using Test Development Mode will vary depending on the assay type, block, and reagents used. Examples: ~35 min for 384-well, ~30 min for 0.2mL 96-well and 0.1mL Fast 96-well, and <1 hr for Applied Biosystems™ TaqMan™ Array Cards* (when using TaqMan Fast Advanced Master Mix*)
Demonstrated sensitivity	Down to 1 copy (see package inserts for IVD test performance specifications)
Dynamic range	Up to 9 logs of linear dynamic range
Supported applications	Standard curve, comparative C _t genotyping, HRM (with license), melt curve, gene expression, qualitative and quantitative assays
Resolution	Detect as little as 1.5-fold change in target quantities in singleplex reaction (see package inserts for IVD test performance specifications)
Supported blocks and reaction volumes	96-well standard (10–100µL), Fast 96-well** (10–30µL), 384-well (5–20µL), qPCR microfluidic cards (~1µL)
Excitation/detection wavelengths	6 excitation (450–670nm), 6 emission (500–720nm)
Security and auditing features	Assists with 21 CFR Part 11 compliance
Power	100–240V, 50/60Hz
Remote monitoring by user	Ability to monitor up to 10 instruments at a time
Remote diagnostics	Optional Smart Monitoring Service for remote instrument diagnostic monitoring (Available in selected regions. Check with your local representative.)
Remote notification	Sends email to user when run is started, stopped, or aborted
Data export format	Select .txt or Microsoft™ Excel™ file formats
Dimensions (W x D x H)	53 x 70 x 75 cm
Weight	70 kg

* TaqMan products are For Research Use Only. Not for use in diagnostic procedures.

** Only the Fast 96-well plate format is available in IVD mode in the US.

The QuantStudio Dx Real-Time PCR Instrument with QuantStudio Dx Software is intended for in vitro diagnostic use by trained laboratory technologists in combination with nucleic acid reagent kits/tests manufactured and labeled for diagnostic use on this instrument.

Learn more at thermofisher.com/quantstudiodx

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