

# Thermo (Life) QuantStudio Molecular Analyzer



## OVERVIEW

The QuantStudio™ 12K Flex Real-Time PCR System sets a new standard for automated analysis for researchers conducting large genotyping or gene expression studies. The streamlined OpenArray® workflow helps save time and resources compared to running experiments in multiple 384-well plates. When equipped with the OpenArray® block and the QuantStudio™ 12K Flex OpenArray® AccuFill™ System, the QuantStudio™ 12K Flex system can produce up to 110,000 data points or more in an 8-hour day with minimal training, as little as 20 minutes of hands-on time per run, and no third-party robotics. The QuantStudio™ 12K Flex facilitates real-time PCR-based applications on a state-of-the-art nanofluidic plate, running up to 3,072 reactions in parallel. Flexible formats scaled to research needs enable the rapid analysis of tens to hundreds of genes or gene products across hundreds to tens of thousands of samples, for common applications such as:

- Genotyping as part of a drug/therapeutic discovery pipeline
- SNP QC and screening
- Digital PCR for rare-allele detection
- MicroRNA profiling
- Biomarker confirmation and screening
- Gene expression quantification
- GWAS follow-up studies
- SNP sample tracking for biobanking
- SNP fingerprinting for ancestry
- Marker-assisted selection (MAS)
- Quantitative trait locus (QTL) mapping
- Pathogen detection

## FEATURES

- Maximum speed and throughput. The OpenArray® format can accelerate genomic confirmation and screening programs by generating up to 110,000 data points or more per 8 hour day, completing your project in days rather than weeks.
- Simple workflow. Load your samples onto the plate using the QuantStudio™ 12K Flex AccuFill™ System, then run up to four plates to generate over 12,000 data points per run. Integrated software tracking features help you easily map and track your samples, giving you the ultimate confidence in your results.
- Reduce start-up and hands-on time. Start a 12,000 data point experiment in typically less than 20 minutes using automated sample loading with the QuantStudio™ 12K Flex AccuFill™ System.
- Integrated analysis and quality systems. Comprehensive software analysis tools for gene expression, genotyping, and digital PCR are available at your fingertips. Laboratory Information Management Systems (LIMS) and features that assist with 21CFR Part 11 compliance are enabled for high-throughput, validated environments.
- Economical processing. Save precious samples and reduce reagent costs through cost-effective usage of nanoliter volumes.

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## Contact Us for More Information:

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# Thermo (Life) QuantStudio Specifications

<b>Block configurations and volume</b>	<ul style="list-style-type: none"> <li>• 96-well (10–100 µL reactions),</li> <li>• Fast 96-well (15–30 µL reactions)</li> <li>• 384-well (5–20 µL reactions)</li> <li>• TaqMan® Array Cards (~1 µL reactions)</li> <li>• OpenArray® Plates (33 nL reactions)</li> </ul>
<b>Block change design</b>	Block change from front in less than 1 min; no tools or service call required
<b>Excitation source</b>	Enhanced OptiFlex® system, White LED
<b>Instrument control</b>	Instrument touch screen, networked computer, or attached computer
<b>Detection channels</b>	<ul style="list-style-type: none"> <li>• Decoupled: 6 emission, 6 excitation (96-well/Fast, 384-well, TaqMan® blocks)</li> <li>• Coupled: 4 emission, 4 excitation (OpenArray® blocks)</li> </ul>
<b>21 CFR p11 enablement</b>	Optional software module
<b>Dimensions (W x D x H)</b>	50.5 cm x 67.2 cm x 73.8 cm
<b>Weight</b>	69 kg (152 lbs)
<b>Power</b>	100–240 V
<b>Remote monitoring</b>	Available to monitor up to 15 networked instruments simultaneously

	<b>96-well, 96-well Fast, 384-well, TaqMan® Array Card blocks</b>	<b>OpenArray® block</b>
<b>Detection channels</b>	Decoupled: 6 emission, 6 excitation	Coupled: 4 emission, 4 excitation
<b>Well-to-well variability</b>	+/- 0.25°C	+/- 0.75°C
<b>Max block ramp rate</b>	3.0°C/sec (384-well)	3.0°C/sec
<b>Run time</b>	<ul style="list-style-type: none"> <li>• 30 min expected (Fast 96-well block)</li> <li>• 35 min (384-well block, using Fast master mix)</li> </ul>	<ul style="list-style-type: none"> <li>• 2 hr (gene expression)</li> <li>• 4 hr (genotyping)</li> </ul>
<b>Demonstrated sensitivity</b>	To 1 copy	To 1 copy
<b>Dynamic range</b>	To 9 logs	To 7 logs
<b>Resolution</b>	As low as 1.5-fold change for single-plex reaction	As low as 2-fold change for single-plex reaction

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