

applied biosystems



# QuantStudio 6 and 7 Pro Real-Time PCR Systems

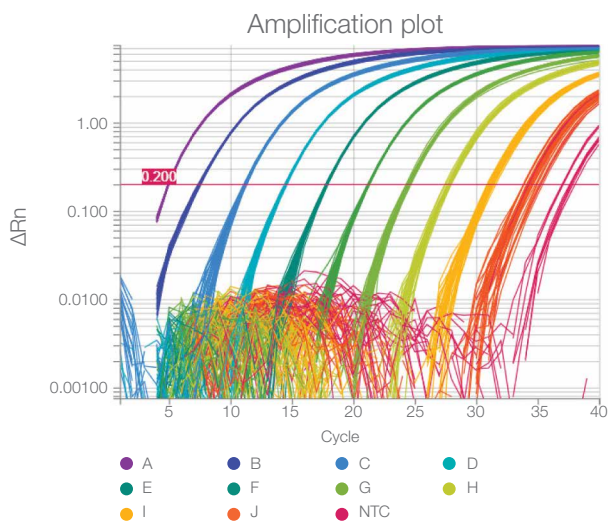
Power to the pros

**ThermoFisher**  
SCIENTIFIC

# Our technology brings you faster, easier real-time PCR and results you can trust

Applied Biosystems™ QuantStudio™ 6 and 7 Pro Real-Time PCR Systems are able to detect differences in target quantity as small as 1.5-fold in singleplex reactions and obtain 10 logarithmic units of linear dynamic range (Figure 1).

With either 3 or 6 independent temperature zones, the Applied Biosystems™ VeriFlex™ Blocks within the QuantStudio Pro instruments provide flexibility to run multiple experiments simultaneously. Fast thermal cycling is also available, enabling results in less than 30 minutes.

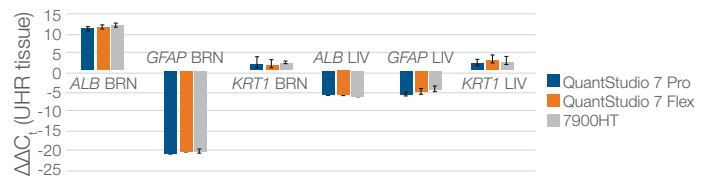


**Figure 1. Real-time PCR reproducibility.** This plot shows results from amplification of KAZ plasmid DNA in 10-fold dilutions (A to J: starting with A =  $10^9$  to J =  $10^0$ , no template control (NTC)) using the 384-well block and Applied Biosystems™ TaqMan® Fast Advanced Master Mix. The data show highly reproducible results over 10 logarithmic units of input template amount, illustrating the broad linear dynamic range of the system.

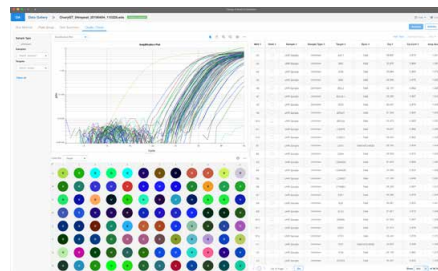
## System comparison

Achieve similar results with the QuantStudio 6 and 7 Pro systems when upgrading from the Applied Biosystems™ QuantStudio™ 6 and 7 Flex Real-Time PCR Systems and the Applied Biosystems™ 7900HT Real-Time PCR Systems. (Figure 2).

Primary analysis using included software from the QuantStudio 6 and 7 Pro systems are similar to those on other QuantStudio instruments (Figure 3).



**Figure 2. Comparison of  $\Delta\Delta C_t$  data between QuantStudio 7 Pro, QuantStudio 7 Flex, and 7900HT systems demonstrates equivalent relative expression level of GFAP, ALB, and KRT1 in cDNA of universal human reference RNA, total liver RNA (LIV), and total brain (BRN) RNA.**



**Figure 3. Primary analysis of a completed run.** The amplification curves, assay maps, and results including quality control (QC) alerts are displayed after a run is complete. The curves can be adjusted as needed, similar to other QuantStudio instruments.

## A day in the life of a qPCR pro ...

### At your desk

Working at your desk has never been easier. You can:

- Plan your experiments, design your protocols, and send them directly to your instrument of choice
- Collaborate with people on-site or in remote locations
- Retrieve and analyze your data at your desk; no need to go to the instrument to download or to have a dedicated computer
- Check to see if the instrument is available and reserve future run times for optimal efficiency

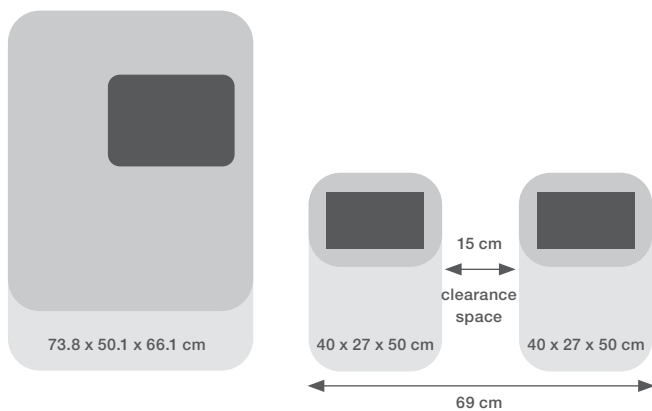


# Interchangeable blocks in a small footprint

## Save space and increase format flexibility

Whether you have one instrument or two today, you can save lab bench space with the QuantStudio 6 and 7 Pro systems.

Trade in larger and older instruments ...



... and save lab bench space



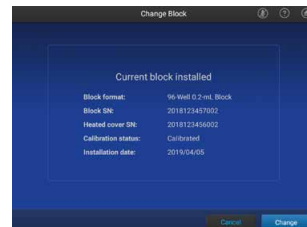
54.7 x 33.8 x 52.5 cm  
(H x W x D), and the screen is in full color.

Find out more at [thermofisher.com/tradeintradeup](https://thermofisher.com/tradeintradeup)

## Changing blocks is so easy

Quick and simple block changes with on-screen walkthrough.

1. View your current block information.
2. Click on the “Change” button.



3. System will release both the block and the heated cover.
4. Remove both.
5. Insert new block and heated cover.
6. Click on the “Install” button.



## At the bench

Improve your day at the bench with simple, time-saving, and error-reducing features:

- Get started without removing your gloves, using facial authentication technology
- Use voice commands for common tasks such as “Start run” and “Open door”
- Reduce data entry and streamline your workflow when using Applied Biosystems™ TaqMan® Array Plates with radio-frequency identification (RFID) tag
- Change the block using the on-screen walkthrough or by saying, “Alexa, open Pro instrument,” then “Change block”
- Get high-quality qPCR data seamlessly delivered to your preferred destination



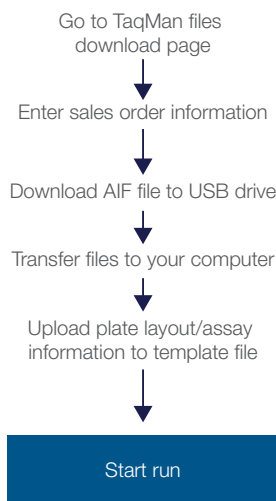
# One simple step gets you to your data faster

TaqMan Array Plates with RFID and QuantStudio 6 and 7 Pro systems create an improved user experience with smart features that eliminate manual steps currently necessary to upload plate layout and assay information into your experiment file. Just insert the plate, and the QuantStudio Pro system captures the plate layout.

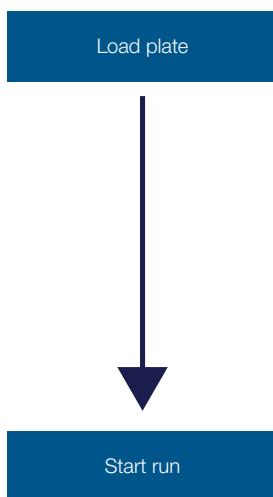


Find out more at [thermofisher.com/taqman-rfid](http://thermofisher.com/taqman-rfid)

## Conventional workflow



## Smart qPCR workflow



RFID tag contains:

- Plate layout—assay IDs in each well
- Plate type
- Expiration date
- Cat. No.
- Lot. No.
- Reaction volume per well
- Passive reference dye
- Thermal protocol

Ultimate traceability, quality, and ease of use

Description	No. of assays	No. of samples	Cat. No. (96-well 0.1 mL)	Cat. No. (96-well 0.2 mL)
TaqMan Array Plates with RFID	N/A	N/A	A43823	
TaqMan Array, Standard, 96-well plate; Format 8	8	12	4413263	4413266
TaqMan Array, Standard, 96-well plate; Format 16/16 Plus	16	6	4413261/4413262	4413264/4413265
TaqMan Array, Standard, 96-well plate; Format 32/32 Plus	32	3	4413259/4413260	4391528/4391529
TaqMan Array, Standard, 96-well plate; Format 48/48 Plus	48	2	4413257/4413258	4391526/4391527
TaqMan Array, Standard, 96-well plate; Format 96/96 Plus	96	1	4413255/4413256	4391524/4391525

## A day in the life of a qPCR pro ...

### Remote location

Taking a coffee break or checking the status of your experiment after work hours is easy with:

- Remote monitoring that shows run status and amplification plots in real time
- Data sharing and analysis features, using the cloud-enabled Connect platform
- Planning and scheduling your next experiment without delay for maximum productivity
- Be the ultimate qPCR pro in your lab or anywhere





# Technical specifications



	QuantStudio 6 Pro Real-Time PCR System	QuantStudio 7 Pro Real-Time PCR System
Sample capacity (wells)	96 or 384	
Reaction volume*	96-well 0.1 mL block: 10–30 $\mu$ L 96-well 0.2 mL block: 10–100 $\mu$ L 384-well block: 5–20 $\mu$ L	96-well 0.1 mL block: 10–30 $\mu$ L 96-well 0.2 mL block: 10–100 $\mu$ L 384-well block: 5–20 $\mu$ L TaqMan Array Card: ~1.5 $\mu$ L
Excitation source	Bright white LED	
Filter or color combinations	5	21
Excitation/emission range	450–680 nm/500–730 nm	
Multiplexing	5 or 6 targets	
Maximum block ramp rate	96-well 0.1 mL block: 9.0°C/sec 96-well 0.2 mL block: 6.5°C/sec 384-well block: 6.0°C/sec	96-well 0.1 mL block: 9.0°C/sec 96-well 0.2 mL block: 6.5°C/sec 384-well block: 6.0°C/sec TaqMan Array Card: 3.0°C/sec
Average sample ramp rate	3.66°C/sec	
Temperature uniformity	0.4°C	
Temperature range	4–99.9°C	
Compatible dyes	FAM™, SYBR™ Green, VIC™, JOE™, TET™, ABY™, NED™, TAMRA™, Cy®3, JUN™, ROX™, Texas Red™, Mustang Purple™, Cy®5, LIZ™, Cy®5.5	
Security, auditing, and e-signature (SAE) features	No	Yes, with no additional fees
Compatible with automation	No	Yes

\* Blocks are being released at intervals; some may not be currently available.

For more information and full testimonials, go to [thermofisher.com/quantstudiopro](http://thermofisher.com/quantstudiopro)

## Read what users are saying.

“It’s SO small.” – M. Kublista, Sweden

“We would have been able to collapse a week of our timeline if we had the QuantStudio 6 Pro system.”  
– S. Turner, USA

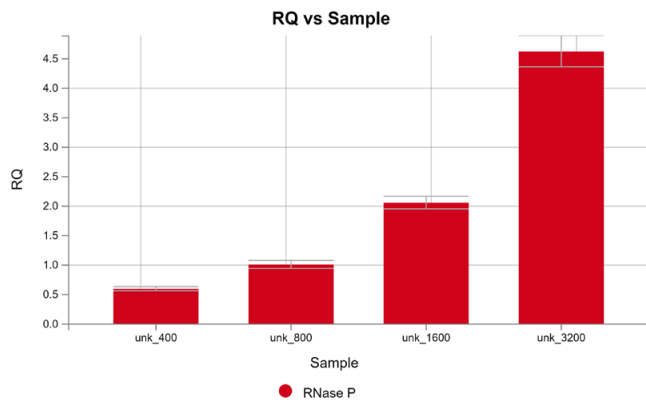
“... one of the few instruments that is very easy to use as a stand-alone instrument.” – R. Fekete, USA

“I can set up my run method while away from the lab, then just drop in my plate and go.” – W. Hu, USA

# Software

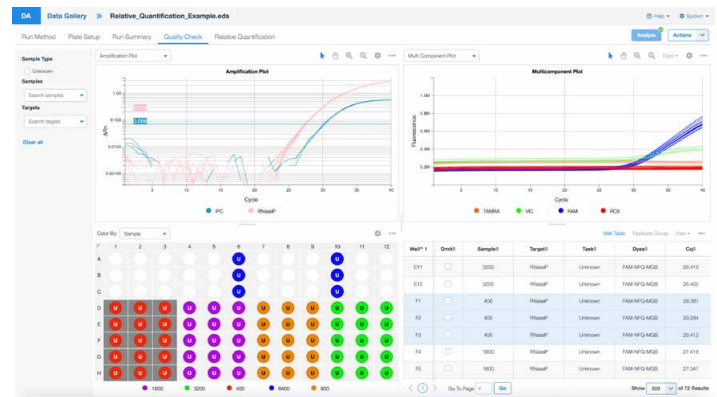
Applied Biosystems™ analysis modules are innovative data analysis applications that bring together multiple data sets in one convenient place and render them in stunning data visualizations for enhanced analysis and insights (Figures 4 and 5).

Customizable QC settings are available to support users who need to specify their own QC rules (e.g., no  $C_t$  value for negative control, or for the software to automatically apply and alert user).



**Figure 4. Comparative data as shown with onboard software.** This chart shows duplex comparative  $C_t$  data with results from the Design and Analysis Software. Experiment done with a reaction volume of 10  $\mu$ L using RNase P, TaqMan Fast Advanced Master Mix, and Applied Biosystems™ Endura™ 384-well Optical Plate.

Users can also filter and highlight specific data points, and all of the corresponding visuals will be pinpointed for easy cross-check inspection with the software's interlocking navigation.



**Figure 5. Relative quantification.** These charts enable efficient data review in the Design and Analysis Software.

## Have a smarter workflow experience with QuantStudio 6 and 7 Pro systems with features that are:

**Personalized**—automatically load your settings and plate setup; no passwords required to log in, thanks to facial authentication

**Efficient**—facilitate hands-free operations with voice commands; maximize uptime with Smart Help feature to access technical support experts for more efficient troubleshooting and resolution; reduce downtime using Smart Remote Support collaboration tool to guide you through repairs remotely; eliminate manual steps to obtain plate layout, protocol, and assay information on the instrument with TaqMan Array Plates with RFID

**Simple**—straightforward block changes with no tools required; streamlined workflow directly from the touchscreen

**Productive**—built-in help videos for commonly used activities; increased ergonomics with larger touchscreen, improved screen angle and optional Bluetooth™ keyboard; access data anytime and anywhere with cloud-enabled services from Connect

# Other

## Security, audit, e-signature (SAE) module

Designed to assist compliance with 21 CFR Part 11 FDA guidelines on electronic records security and to prevent unauthorized access to the instrument, the SAE module can be enabled to support a single instrument or multiple units concurrently.

- Authenticate each user and verify their permission to perform controlled activities
- Audit all data-impacting events for traceability on the instrument as well as in the Design and Analysis desktop software
- Permits e-signature function for data verification

## Superior services and support

There's no time for downtime in your lab. Built on more than 35 years of service expertise, our plans help keep your lab up and running. From installation and hands-on training to technical support, our 1,000+ trained professionals are ready to assist you when you need it.

Because science can't wait.

Find out more at [thermofisher.com/instrumentservices](http://thermofisher.com/instrumentservices)



## Automation

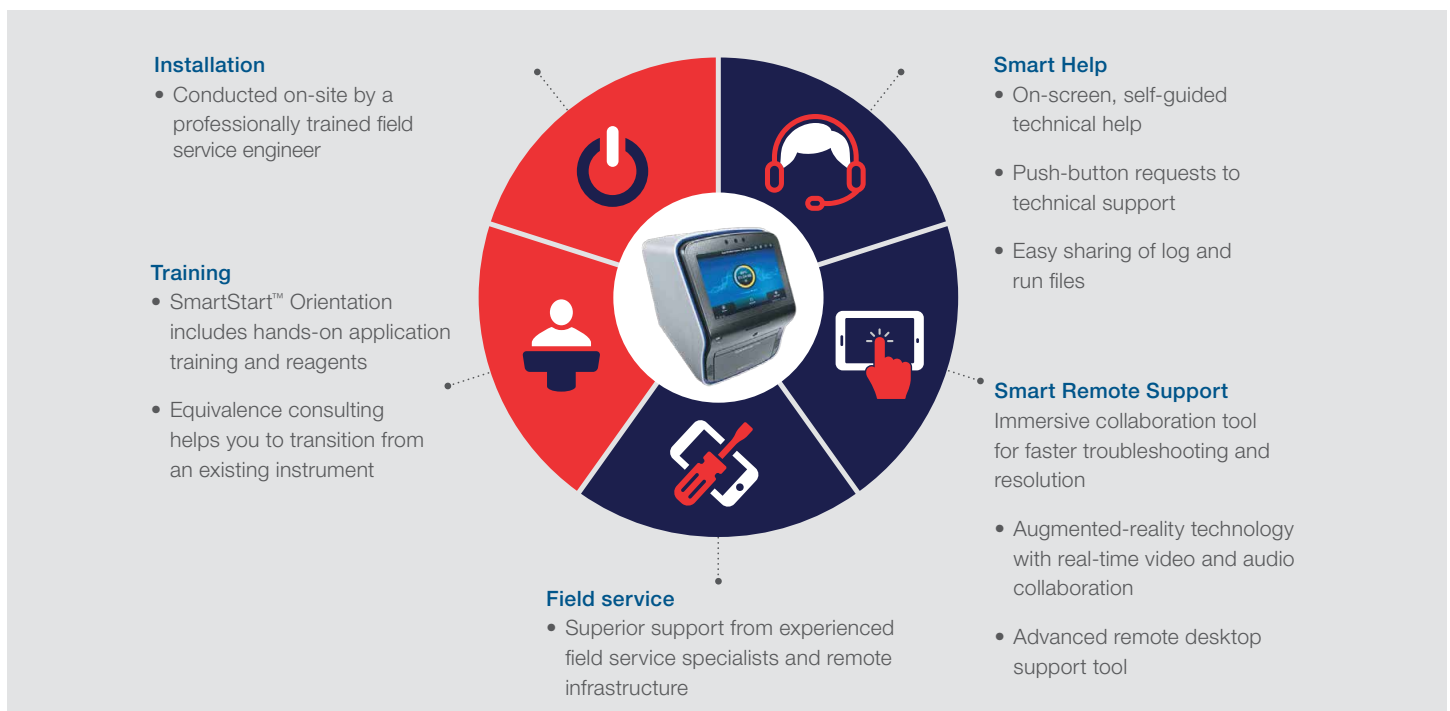
Increase productivity and reduce your manual tasks by adding automatic loading of one or two QuantStudio 7 Pro systems with the Thermo Scientific™ Orbitor™ RS2 Microplate Mover. The Orbitor RS2 robot is a compact benchtop microplate mover with integrated bar code scanning for greater flexibility, increased sample throughput, and operational efficiency. It is offered in a variety of configurations to match your requirements.

Find out more at [thermofisher.com/orbitorRS2](http://thermofisher.com/orbitorRS2)

## Plastics

Applied Biosystems™ MicroAmp™ PCR plastics have been designed and validated to work with our thermal cyclers for more than 25 years. That's why they are Engineer Approved to enable optimal qPCR results.

Find out more at [thermofisher.com/plastics](http://thermofisher.com/plastics)



## Ordering information

Product	Instrument only	Instrument with service Cat. No.*
<b>QuantStudio 6 Pro system configurations</b>		
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.1 mL block	A43160	A47200
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.1 mL block, laptop	A43167	A47202
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.1 mL block, desktop	A43181	A47204
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.2 mL block	A43159	A44288
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.2 mL block, laptop	A43166	A44290
QuantStudio 6 Pro Real-Time PCR System, 96-well, 0.2 mL block, desktop	A43180	A44292
QuantStudio 6 Pro Real-Time PCR System, 384-well block	A43161	A45582
QuantStudio 6 Pro Real-Time PCR System, 384-well block, laptop	A43168	A45584
QuantStudio 6 Pro Real-Time PCR System, 384-well block, desktop	A43182	A45586
<b>QuantStudio 7 Pro system configurations</b>		
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.1 mL block	A43163	A47201
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.1 mL block, laptop	A43170	A47203
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.1 mL block, desktop	A43184	A47205
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.2 mL block	A43162	A44289
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.2 mL block, laptop	A43169	A44291
QuantStudio 7 Pro Real-Time PCR System, 96-well, 0.2 mL block, desktop	A43183	A44293
QuantStudio 7 Pro Real-Time PCR System, 384-well block	A43164	A45583
QuantStudio 7 Pro Real-Time PCR System, 384-well block, laptop	A43171	A45585
QuantStudio 7 Pro Real-Time PCR System, 384-well block, desktop	A43185	A45587
QuantStudio 7 Pro Real-Time PCR System, TAC** block	A43165**	A47651
QuantStudio 7 Pro Real-Time PCR System, TAC** block, laptop	A43172**	A47653
QuantStudio 7 Pro Real-Time PCR System, TAC** block, desktop	A43186**	A47655

\* Extended warranty packages include the instrument, SmartStart Orientation, and a 1-year AB Assurance Plan with 1 planned maintenance (PM) visit. Packages are not available in all countries. Contact your local sales representative for more information.

\*\* Some block configurations may not yet be available. Go to [thermofisher.com/quantstudiopro](http://thermofisher.com/quantstudiopro) for a complete list and availability.

## Ordering information

Product	Size	Cat. No.
<b>Consumables</b>		
TaqMan Fast Advanced Master Mix	5 mL	4444557
	50 mL	4444558
PowerTrack SYBR Green Master Mix	5 mL	A46109
	50 mL	A46113
High Capacity RNA-to-cDNA Kit	50 reactions	4387406
Invitrogen SuperScript IV VIL0 Master Mix	500 reactions	11756500
<b>Instrument Qualification (IQ), Operational Qualification (OQ), and Instrument Performance Verification (IPV) services*</b>		
IQ/OQ/IPV service for QuantStudio 6 or 7 Pro systems, 96-well, 0.1 mL block		A45610
IQ/OQ/IPV service for QuantStudio 6 or 7 Pro systems, 96-well, 0.2 mL block		A44230
IQ/OQ/IPV service for QuantStudio 6 or 7 Pro systems, 384-well block		A45576
IQ/OQ/IPV service for QuantStudio 7 Pro systems, TAC block		A47663

\* OQ/IPV service is not available in all countries. Contact your local sales representative for availability information.

Experience faster, easier qPCR in a compact design. See the future of qPCR at [thermofisher.com/quantstudiopro](http://thermofisher.com/quantstudiopro)

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