

qTOWERiris Series

Feel Free to Explore



Your Journey. Your Choices. Your Success.

qTOWERiris builds on nearly 40 years of experience in PCR and qPCR technology and provides users with freedom to choose their color modules, consumables, reagents, and kits.

Your choice, our open system:

Reliability

Self-test before each run ensures flawless operation. Fiber Check System allows to test the integrity and proper function of the fiber optic system, before or after each run.

Color Modules and Multiplexing

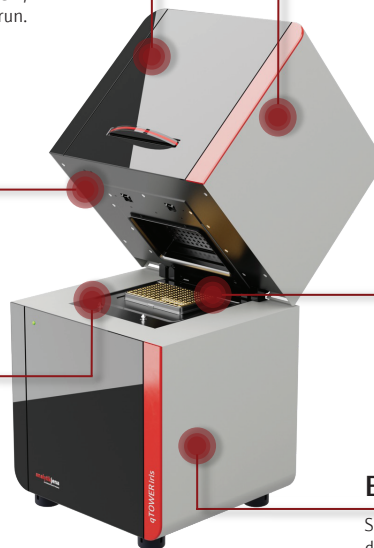
Color modules are factory calibrated and compatible with all current and future dyes, with spectral coverage from UV-A (360 nm) to NIR (730 nm). You can customize color modules and add or exchange them at any time. qTOWERiris makes multiplexing easy allowing for up to six targets at the same run and is compatible with TAMRA® dyes.

Truly open system

Works with any dyes, reagents, and assays. Compatible with all types of microplates (skirted, semi-skirted, non-skirted), PCR strips and tubes.

Precision

Intelligent temperature management system ensures temperature accuracy of ± 0.1 °C over the entire block. Delivering reproducible experimental conditions in every well. The dynamic range of 10 orders of magnitude detects 1 copy of the target sequence.



Unique block design

Made out of high quality silver offers outstanding heating and cooling ramping rates, unparalleled uniformity (± 0.15 °C) and temperature accuracy over the entire block. The 96-well block can accept low profile consumables, and evenly heat up to 100 μ l reaction volume.

Ergonomics and connectivity

Space saving vertical design with a footprint of only 12 x 12 inches. Uniquely designed air vents reduce the noise level to barely audible and allow to put instruments closely together. Control up to 4 units from a single computer.

qTOWERiris empowers you to feel free

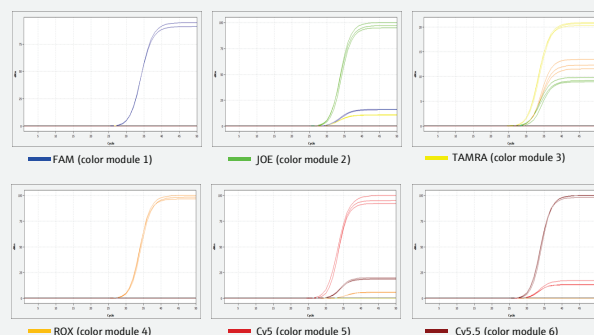
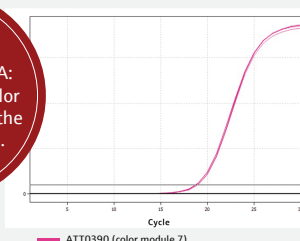
- to purchase consumables and reagents where you want to, not where you have to
- from the expensive maintenance contracts with 10-year warranty on optic system and up to 3-year warranty on the device system.

Multiplexing with the qTOWERiris allows for up to six targets in one run without crosstalk.

Feel free from periodic calibrations saving money and eliminating instrument downtime. The unit is factory calibrated so there is no need to recalibrate it when you want to use new dyes. For weaker probes, it is possible to selectively amplify the signal with the gain setting in the software for optimal results. Choose from 7 individually available color modules with spectral coverage from UV-A to NIR. FRET, protein module, and custom color modules are also available.

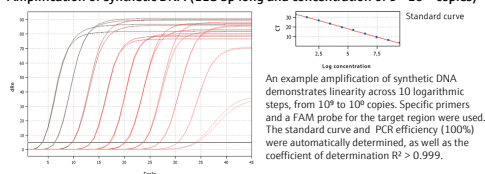
- 7 LED multi-color light source
- Patented fiber-optic shuttle system directly illuminates each individual well without edge effect
- Fast scan time: 6 seconds independent of the number of dyes.

NEW
Adapted for UV-A:
The additional color channel expands the qPCR dye range.

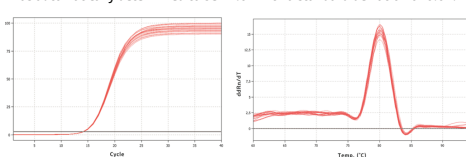


Wide linear range with accurate quantification across 10 orders of magnitude, volume independence, and unparalleled temperature homogeneity of $\pm 0.1^\circ\text{C}$ across the entire block.

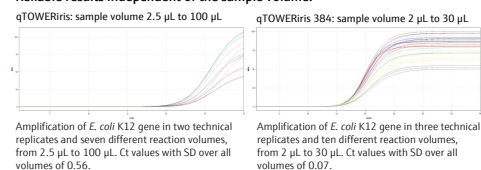
Amplification of synthetic DNA (118 bp long and concentration of 3×10^{10} copies)



Amplification of an *E. coli* specific target sequence in 96 wells, the mean Ct value was automatically determined to be 14.04 with a standard deviation of 0.04.



Reliable results independent of the sample volume.



Technical Specifications

Parameter	96 Well System	384 Well System
Sample Block	Silver sample block with gold coating	Aluminum sample block with special alloy coating
Block capacity	96 wells suitable for 0.1 mL and 0.2 mL format consumables with optical clear sealing film: microplates (skirted, semi-skirted, non-skirted), tubes, and stripes	384-well microplates
Reaction volume	5 - 100 μL	2 - 30 μL (5 - 20 μL recommended)
Heating rate	Max. 8 $^\circ\text{C}/\text{s}$ (average 7 $^\circ\text{C}/\text{s}$)	Max. 4 $^\circ\text{C}/\text{s}$ (average 3 $^\circ\text{C}/\text{s}$)
Cooling rate	Max. 5.5 $^\circ\text{C}/\text{s}$ (average 4.5 $^\circ\text{C}/\text{s}$)	Max. 2 $^\circ\text{C}/\text{s}$ (average 1.5 $^\circ\text{C}/\text{s}$)
Temperature control method	Peltier	Peltier
Standby temperature	down to 4 $^\circ\text{C}$	down to 4 $^\circ\text{C}$
Adjustable temperature range	4 - 99 $^\circ\text{C}$	4 - 99 $^\circ\text{C}$
Temperature control mode	Block control and simulated tube control (STC)	Block control and simulated tube control (STC)
Temperature uniformity after 15 sec.	$\pm 0.25^\circ\text{C}$ at 70 $^\circ\text{C}$	$\pm 0.25^\circ\text{C}$ at 70 $^\circ\text{C}$
Temperature control accuracy	$\pm 0.1^\circ\text{C}$	$\pm 0.1^\circ\text{C}$
Heated lid temperature range	30 - 110 $^\circ\text{C}$	30 - 110 $^\circ\text{C}$
Gradient	Linear Gradient Tool	Linear Gradient Tool
Max./Min. gradient	40 $^\circ\text{C}$ / 0.1 $^\circ\text{C}$	24 $^\circ\text{C}$ / 0.1 $^\circ\text{C}$
Adjustable gradient range	12 columns from 4 - 99 $^\circ\text{C}$	24 columns from 4 - 99 $^\circ\text{C}$
Light source	7-chip multi-color power LED	7-chip multi-color power LED
Excitation method	Fiber optic shuttle system with 8-fold scanner	Fiber optic shuttle system with 16-fold scanner
Detector	Highly sensitive PMTs (Photo Multiplier Tubes)	Highly sensitive PMTs (Photo Multiplier Tubes)
Excitation/detection range	440 nm - 730 nm (Incl. color module 7 UV-A: 360 nm - 730 nm)	440 nm - 730 nm (Incl. color module 7 UV-A: 360 nm - 730 nm)
Scan time	6 sec for 96 wells independent of the number of dyes	6 sec for 384 wells independent of the number of dyes
Sensitivity	Detects 1 copy of the target sequence	Detects 1 copy of the target sequence
Multiplex analysis	Up to 6 targets per well	Up to 6 targets per well
Weight	Approx. 60 lb (30 kg)	Approx. 60 lb (30 kg)
Dimensions (W x D x H)	12 in x 12.4 in x 23.1 in (30.4 cm x 31.6 cm x 58.7 cm)	12 in x 12.4 in x 23.1 in (30.4 cm x 31.6 cm x 58.7 cm)
Power consumption	Max. 850 W	Max. 850 W
Interface	External PC (Windows 10 or higher) or build-in touchscreen (touch version)	External PC (Windows 10 or higher)

Ordering Information

Voltage	qTOWERiris 96-well	qTOWERiris, UV ready 96-well	qTOWERiris touch 96-well	qTOWERiris touch, UV ready 96-well	qTOWERiris 384-well	qTOWERiris, UV ready 384-well
115 V	77497-288	77497-292	77497-296	77497-300	77497-304	77497-308
230 V	77497-286	77497-290	77497-294	77497-298	77497-302	77497-306

Your Regional Partner

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Subjects to changes in design and scope of delivery as well as further technical development.