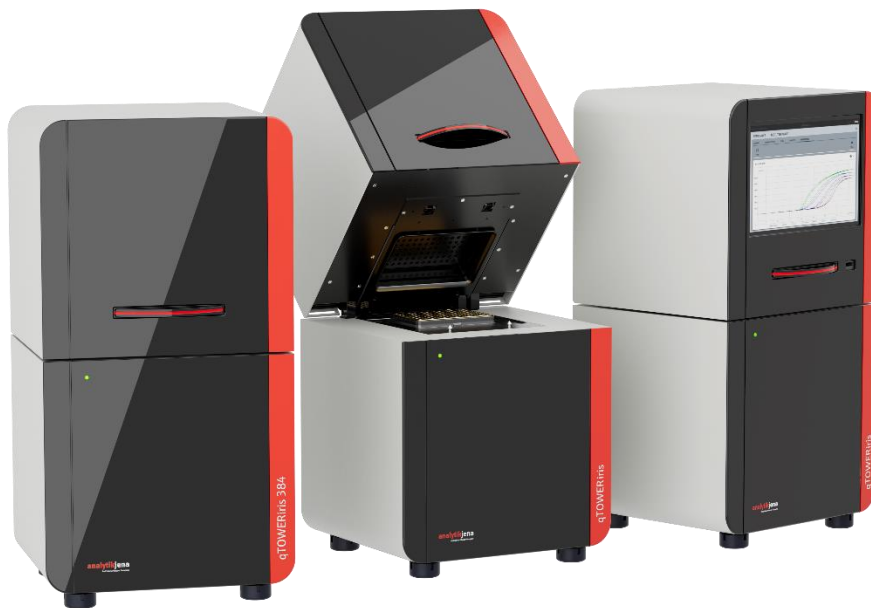


qTOWERiris / qTOWERiris touch / qTOWERiris 384 Real-time Quantitative PCR



Technical Data

qTOWERiris / qTOWERiris touch / qTOWERiris 384

General

- High-end real-time PCR thermal cycler available with innovative silver sample block in 96 well format or with a massive aluminum sample block in 384 well format
- Patented fiber optical system for optimized excitation of each single sample
- Extended wavelength range from UVA to NIR due to innovative LED light source
- Multiplex analysis: system can be equipped with up to 6 excitation and emission filters
- Integrated real-time software with automated data evaluation and state-of-the-art analysis tools
- PC or stand-alone control by 10"tablet (colored, touch, only qTOWERiris touch)

Thermal block

Parameter	96 Well System	384 Well System
Sample block	Silver sample block with gold coating	Aluminum sample block with alloy
Block capacity	96 wells suitable for 0.1 ml and 0.2 ml format consumables with optical sealing (microplates, tubes and stripes)	384-well microplates with optical sealing
Sample size	5 – 100 µL	2 – 30 µL (5 – 20 µL recommended)
Heating	Max. 8 °C/s and Ø 7 °C/s	Max. 4 °C/s and Ø 3 °C/s
Cooling	Max. 5.5 °C/s and Ø 4.5 °C/s	Max. 2 °C/s and Ø 1.5 °C/s
Temperature control	Peltier elements	
Standby temperature	down to 4 °C	
Adjustable temperature range	4 °C to 99 °C	
Temperature control mode	Block control and simulated tube control (STC)	
Temperature uniformity (across the entire block, after 15 sec)	± 0.15 °C at 55 °C ± 0.25 °C at 70 °C ± 0.50 °C at 95 °C	
Temperature control accuracy	± 0.1 °C	
Gradient	Linear Gradient Tool	
Max./Min. Gradient	40 °C / 0.1 °C	24 °C / 0.1 °C
Adjustable gradient range	12 columns from 4 °C to 99 °C	24 columns from 4 °C to 99 °C

Technical Data

qTOWERiris / qTOWERiris touch / qTOWERiris 384

Heated lid

Parameter	96 Well System / 384 Well System
Heated lid	Yes
Lid temperature	30 °C to 110 °C
Contact pressure	Corresponds to 30 kg, automated

Control

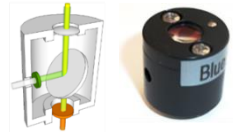
Parameter	96 Well System	384 Well System
Control	PC or stand-alone (optional)	PC
Control and analysis software	qPCRsoft or qPCRsoft <i>touch</i>	qPCRsoft
Display	Only qTOWERiris touch: 10"tablet, colored	
Operating system	Windows 10 or higher	
Minimum requirement of PC	Min. Intel Core i3, 2048 MB RAM, available hard disk space min. 300 MB, Min. USB 2.0, Display resolution min. 1280 x 1024 pixel	
Export function	Excel, *.csv, LIMS	
Features	<ul style="list-style-type: none"> ▪ Absolute and relative quantification ▪ Delta-delta Ct-method ▪ Genotyping ▪ Allele discrimination ▪ PCR efficiency ▪ Melting curve ▪ Multi-gene and multi-plate analysis ▪ MIQE compliant documentation 	

Optics

Parameter	96 Well System	384 Well System
Measuring principle	Fiber optic shuttle system with 8-fold scanner and color modules for excitation and emission filters	Fiber optic shuttle system with 16-fold scanner and color modules for excitation and emission filters
Light source	7-chip multi-color power LED	
Detector	Highly sensitive PMT (Photo Multiplier Tube)	

Technical Data

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Read out time	6 sec for 96 wells independent of the number of dyes (single plate readout)	6 sec for 384 wells independent of the number of dyes (single plate readout)
Excitation/detection range	440 nm - 670 nm / 505 nm - 730 nm Incl. color module 7 (UVA): 360-670 nm / 460 nm - 730 nm	
Color modules	<ul style="list-style-type: none"> Up to 6 color modules can be used simultaneously (6plex) 8 modules for DNA- and protein analysis available FRET modules can be provided on request 	
Configuration	<ul style="list-style-type: none"> Preconfigured with color module 1 Free configuration possible Retrofitting possible 	

Parameters color modules

Name	Excitation	Emission	Fluorescent dyes
Color module 1 for qTOWERiris Series (blue)	455 ± 15 nm	515 ± 10 nm	FAM™, SYBR®Green, ATTO425, Cyan500
Color module 2 for qTOWERiris Series (green)	520 ± 10 nm	560 ± 15 nm	JOE™, HEX™, VIC®, YakimaYellow®, TET™
Color module 3 for qTOWERiris Series (yellow)	550 ± 10 nm	585 ± 10 nm	TAMRA™, ATTO550
Color module 4 for qTOWERiris Series (orange)	580 ± 10 nm	620 ± 15 nm	ROX™, TexasRed®, Cy3.5®, ATTO590
Color module 5 for qTOWERiris Series (red)	625 ± 10 nm	670 ± 15 nm	Cy5®, ATTO633
Color module 6 for qTOWERiris Series (NIR1)	660 ± 10 nm	710 ± 20 nm	Cy5.5®, ATTO665
Color module 7 for qTOWERiris Series (UVA)	375 ± 15 nm	475 ± 15 nm	ATTO390
Protein module 1	465 ± 15 nm	585 ± 15 nm	SYPRO® Orange

qPCR Application

Parameter	96 Well System / 384 Well System
Dynamic range	10 orders of magnitude
Sensitivity	Detects 1 copy of target sequence
Passive reference	Not necessary, due to single excitation/detection of each well, Option is available in software
Multiplex analysis	<ul style="list-style-type: none"> Up to 6-fold Wide spectral range for reduced fluorescence crosstalk

Technical Data

qTOWERiris / qTOWERiris touch / qTOWERiris 384

Dimensions

Parameter	96 Well System / 384 Well System
Weight	Approx. 30 kg
Dimensions (W x D x H)	30.4 cm x 31.6 cm x 58.7 cm
Space requirement (W x D x H)	Open device: 30.4 cm x 47.7 cm x 61.3 cm

Additional technical data

Parameter	96 Well System / 384 Well System
Interface	PC connection via Ethernet or USB
Fuses	2× 10 AT / 250 V
Line Voltage	100 V, 115 V and 230 V version
Power consumption	Max. 850 W
Noise emission	Ø 60 dB
Operation conditions	15 to 35 °C, 70% humidity, max. 2,000 m NN
Warranty	<ul style="list-style-type: none"> ▪ 2 years warranty on device system ▪ 10-year long-term warranty on high performance optics and hinges

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