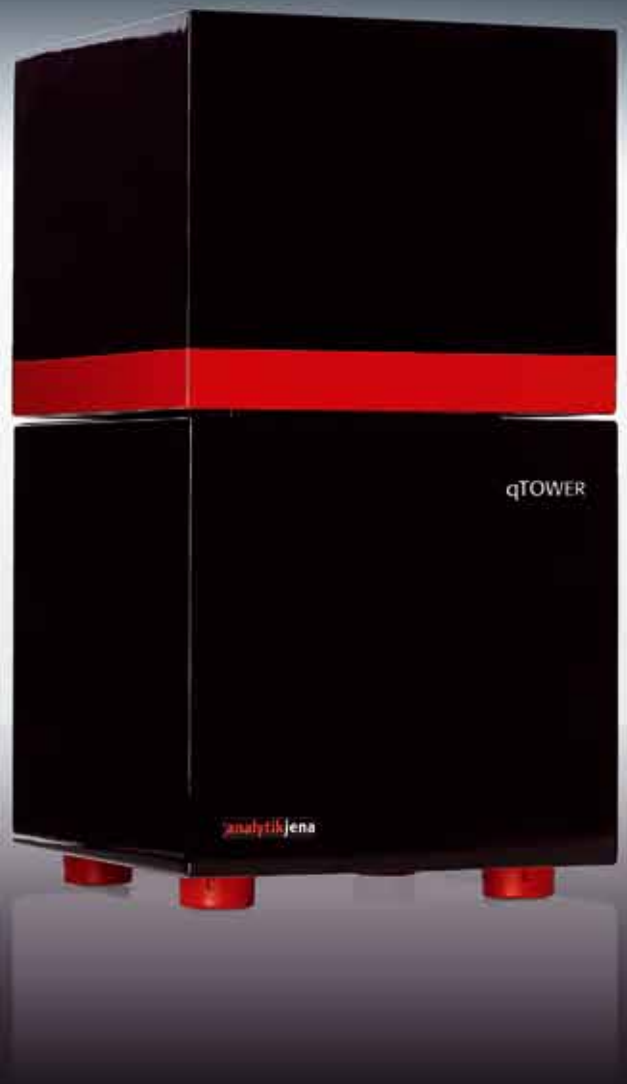
analytikjena

qTOWER | Quantitative real-time rapidPCR

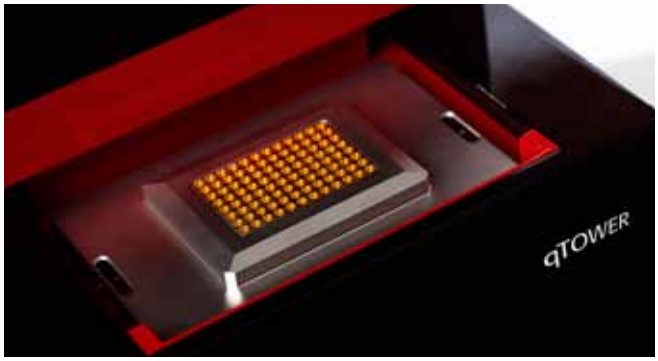
- Combination of rapidPCR with real-time fluorescence detection
- Ideal for daily routine diagnostics
- Simple and fast result analysis integrated into control software



qTOWER | New, faster and easier quantitative real-time PCR

The qTOWER for routine real-time diagnostics is based on a novel fiber optical system patented by Analytik Jena. Furthermore it combines the advantages of exceptionally fast rapidPCR with ramping rates up to 12 °C/sec and a considerably sample consumption down to 5 µl per reaction. The test principle is build on robust homogeneous exonuclease assay or simple intercalating dyes, like SybrGreen. The detection of fluorescence signals takes place during each cycle, user-defined either during denaturation, annealing or elongation. Thereby the device is also suitable for easiest multi-component analysis.

- Quantitative real-time fluorescence detection
- Combines advantages of rapidPCR with enormous sample consumption
- Heating rates of up to 12 °C/sec and cooling rates of up to 8 °C/sec
- Sample consumption down to 5 µl



Integrated 96 well LPR thermal block for rapidPCR using qTOWER

Additionally Analytik Jena's **SPS** (**S**ample-**P**rotection-**S**ystems) ensures best protection of the samples inside the thermal block, by cooling down to 20 °C during heat up of the slided lid, prior to start of the PCR. Thereby the maximum set temperature of 120 °C and the automatic, high contact pressure ensure best sample recovery without any condensation, even in case of small reaction volumes.

Prepared for the future

To meet different demands of applications, the qTOWER can be equipped with up to 4 different color modules for excitation and emission. Thereby the qTOWER can be customized, as a choice of the user out of 9 different available color modules. This keeps the system open for individually adaptations or changes. Therefore the instrument is ideally suited for multiplex applications and covers most currently available dyestuffs.

- 9 different color modules available, including 4 FRET filters
- Open for individually adaptations or changes
- Read-out of 96 wells within 4 seconds, independent of the number of dyes

qPCRsoft – simple and clear

Basis for the final analysis of the real-time PCR curves is the integrated software qPCRsoft. With this software the analytical evaluation of measured fluorescence signals referring to methods like absolute or relative quantification, delta-delta ct, allele discrimination or PCR efficiencies takes place. This control and analysis software allows the accurate determination of concentrations or available allele conditions as well as ratios of expressions. Furthermore the complete system is extreme fast and permits the measurement by means of observing qPCR curves including analysis of up to 96 samples in parallel within less than 60 minutes. Thus the qTOWER in combination with qPCRsoft software represents an excellent, highly flexible and really fast real-time PCR device.

- Integrated control and analysis software qPCRsoft
- Real-time PCR and analysis of 96 samples in parallel within less than 60 minutes
- Variety of methods for data analysis
- Absolute and relative quantification
- PCR efficiency and delta-delta ct method
- Discrimination of allele conditions and determination of expression ratios

Intuitive, fast and easy operation are hallmarks of the qTOWER software. It not only controls the rapidPCR reaction and recording of fluorescence signals per cycle, it also enables the final data analysis by a wide choice of different qPCR methods.

Available color and FRET modules

	Excitation (nm)	Emission (nm)	Detected Dyes (Examples)
Color module 1	470	520	FAM, SybrGreen, Alexa488
Color module 2	515	545	JOE, HEX, VIC, YakimaYellow
Color module 3	535	580	TAMRA, DFO, Alexa546, NED
Color module 4	565	605	ROX, TexasRed, Cy3.5
Color module 5	630	670	Cy5, Alexa633, Quasar670
FRET 1	470	580	FAM (donor) / TAMRA (acceptor)
FRET 2	470	670	FAM (donor) / Cy5 (acceptor)
FRET 3	470	705	FAM (donor) / Cy5.5 (acceptor)
FRET 4	515	670	JOE (donor) / Cy5 (acceptor)

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