

Quantum P >>>

Your Personal Cytometer.



+++ personal +++ precise +++ powerful +++ portable +++ proven +++ pantau® single photon analysis +++

Features

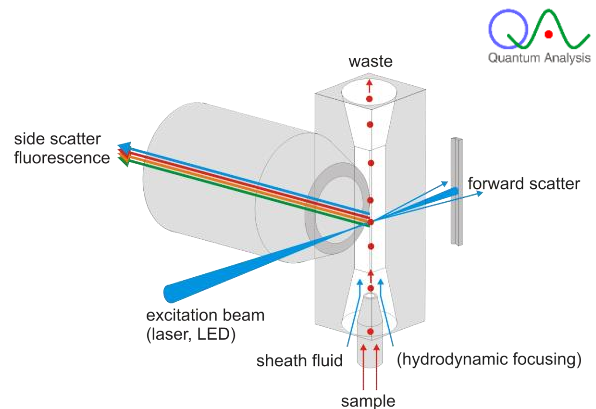
- **Personal Cytometer**
- **Simple Direct Instrument Control**
- **Precise Cell Counts and Analysis**
- **Sensitive Particle Analysing System**
- **Up to 400 samples/h Sample Automation***
- **CyPAD® Software with Simple Touch or Keyboard/ Mouse Operation**
- High Quantum Efficiency Wide Dynamic Range Light Detection
- Proven Cytometer Technology
- pantau® Single Photon Detection Technology*
- Precise Flow Cell
- Powerful Light Sources, including modulation*
- Support for New Applications
- Modular Open System Architecture
- Compact Size
- Lab-Friendly Design: Easy and Cost Efficient Maintenance
- * optional

Applications

Plant Cell Animal Cell Bacteria	DNA Ploidy/ Aneuploidy Screening	Cell Growth Cell Cycle	Biochemical Screening
Cell Counting Analysis	Live/Dead Analysis	Bioreactor Fermentation Control	Ultra Sensitive
Cell Culture Monitoring	Cell Toxicology	Hygiene Screening	Cell Research

Quantum Analysis' (QA) innovative spirit and expertise directly sources from the pioneer days of flow cytometry in the early 1970es. QA technology, eventually less-noticed yet, worldwide drives more than 2500 flow cytometers (FCM) of well-known brand FCM companies for a wide range of particle analysis applications, including on-site systems for essential healthcare in developing countries and in lab-free industrial environments. Understanding today's demands for more simple, efficient and direct personal access to powerful and most precise cytometers, and building on decades of proven experience in FCM, it was now time for QA to go public with the Quantum P, your personal cytometer.

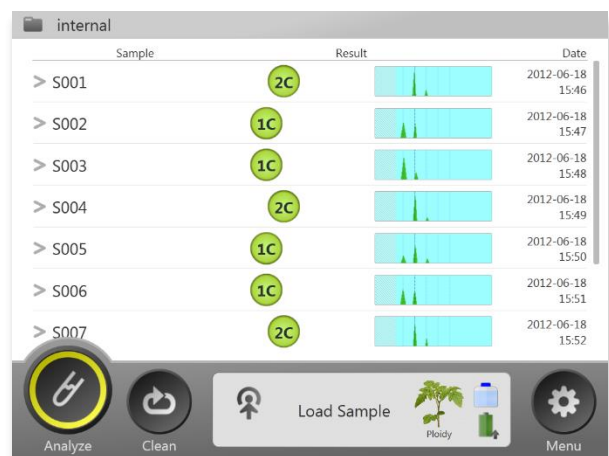
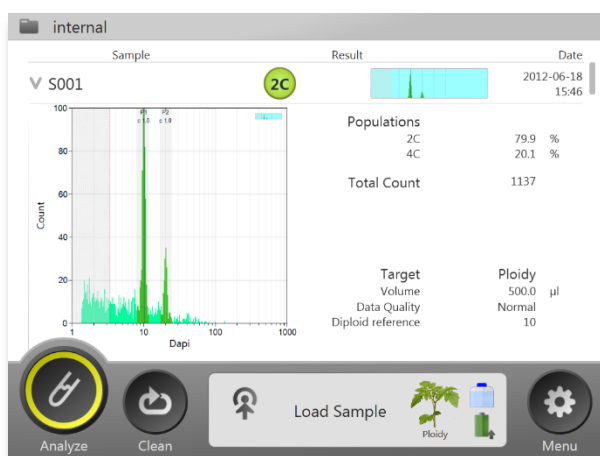
Quantum P is designed for you. Careful attention is paid towards simplicity, precision and cost efficiency of operation and maintenance. This makes Quantum P different from huge FCM equipment usually found in specialized routine clinical labs. QA all in-house hard- and software development, including CyPAD® and CyPAD® touch, precisely match to the Quantum P and provide seamless instrument operation and automation within a single integral system.



At the heart of Quantum P: QA's microfluidic flow cell where cells precisely cross and interact with the light source(s). beam.

Quantum P is an open system based on QA's proven modular cytometer platform technology. This allows flexible integration into your specific environment. Data exchange is transparent and connectivity provided on various levels, from synchronizing to other equipment as bioreactors over international FCS data format standards to configurable Excel lab requests and reports, network and LIMS data base systems.

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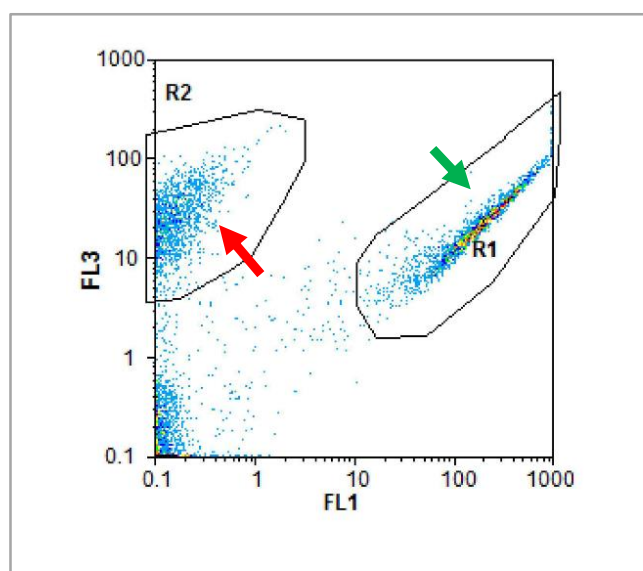
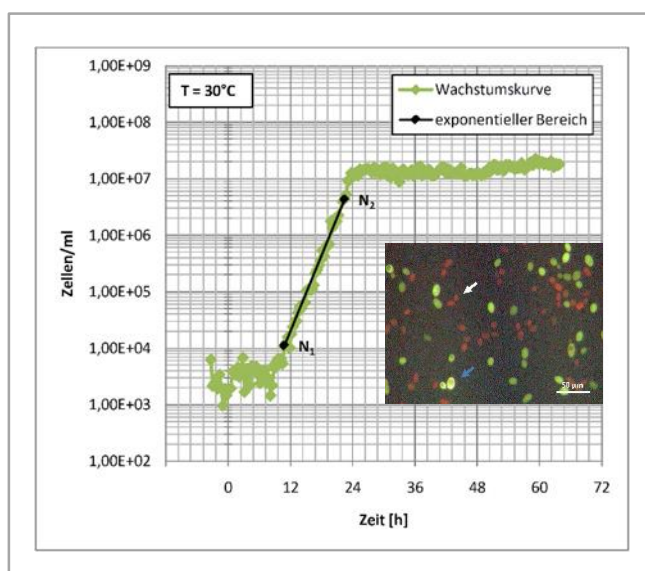


Routine Plant Ploidy Analysis: Single measurement (left), batch result (right).

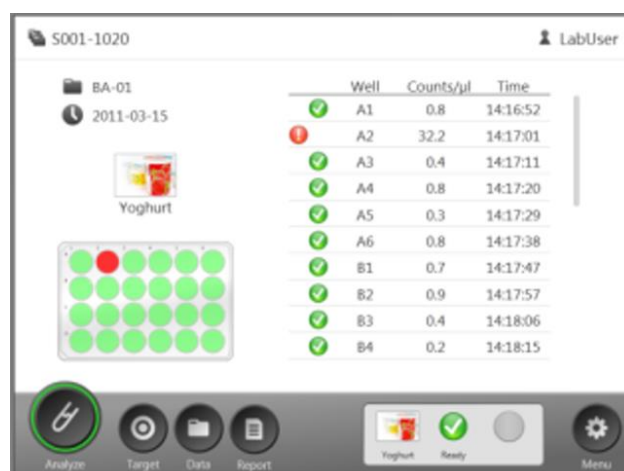
Applications

Quantum P is made to be your universal daily cell and particle analysis tool. It will assist you to solve your particular application task by simplicity, precision and routine automation, in:

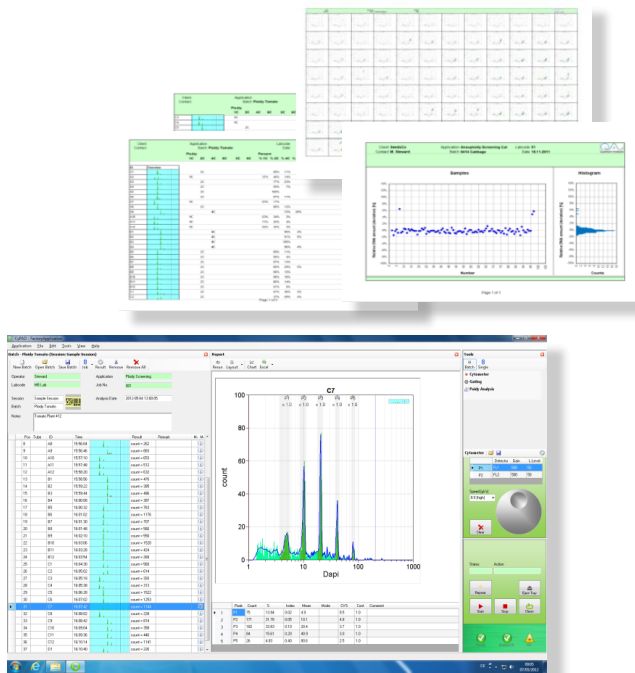
- Ploidy Analysis and Aneuploidy Screening
- Cell Cycle Analysis
- Cell and Microorganism Culture Monitoring
- Live/Dead Cell Analysis and Counting
- Bioreactor Fermentation Control
- Bead-Based Assay Analysis
- QA lab-on-bead™ Technology
- Cell and Particle Research, Nanoparticles



Automated Bioreactor Fermentation Monitoring: Yeast cell count (live cell) growth curve over 3 days (left). Microscopic inset: green cells = live cells, red cells = inactive (dead) cells. Live/Dead discrimination (enzymatic esterase activity) in FCM (right).



Hygiene screening, manual (left) and with multi sample automation (right).



Quantum P high throughput well plate sample automation, up to 600 samples/h

Quantum P perfectly supports QA's recent **lab-on-bead™ technology** for ultra-sensitive biochemical screening of specific proteins and oligo-nucleotides.

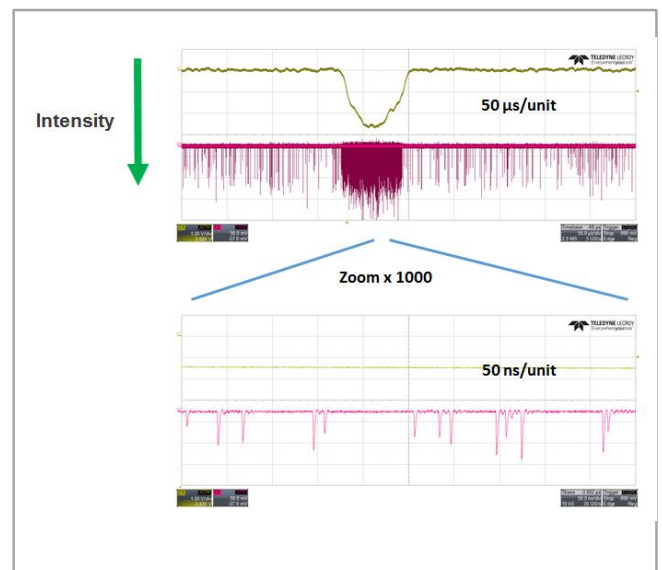
For most demanding sensitive and innovative applications, QA's new **pantau® technology** provides holistic time analysis of fluorescence light on a single photon level.

Contact us for more information for details on this and your application.

Your Personal Cytometer.



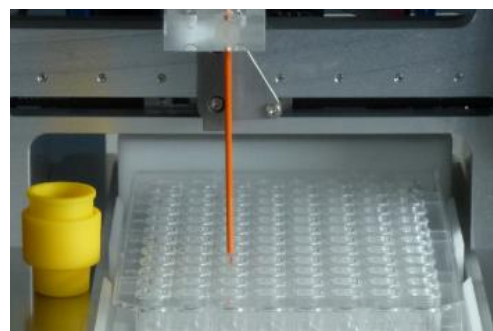
QA Laser and Light Source Technology with modulation



FCM Single Photon Detection for ultra-sensitivity by QA pantau® technology.

Technical Specifications

Feature	Specification
Analysis Time¹⁾	manual: <30 s/sample (typ.) sample autoloader: down to 6 s per well <3 min/24 well plate/individual sample tubes <10 min/96 well plate <40 min/384 well plate
Counting Precision/Accuracy	1%/3% (standard deviation)
Analysis Volume Range	5-1000 µl
Minimum Sample Volume	50 µl
Sample Cross Contamination¹⁾	<0.1%
Particle Size Range	0.05-100 µm
Molecular Sensitivity¹⁾	<500 MESFL
Sample Analysis Speed	0.5-20 µl/s
Supported Sample Entry	3.5 ml tube Eppendorf vial 24 individual tube rack 3.5 ml 24, 96, 384 well plate (including deep wells)
Customer Specific Configurations	open system design, individual support
Excitation Light Source¹⁾	solid state laser light emitting diode (LED)
Optical Detection¹⁾	high efficiency light collection modular spectral selection filter sets (user exchangeable) Photomultiplier (PMT) with wide dynamic range Single Photon Detection (pantau® technology) ²⁾ flow quality camera
Software/Computer System	CyPAD®/CyPAD® <i>touch</i> instrument control and data analysis, linear/2D barcode support, configured compact personal computer, Ethernet connection, Microsoft Windows 10, multi- touch monitor, keyboard, mouse
Automated Results Reporting	Microsoft Excel (macro-free), XML, LIMS connections
Data Formats	FCS 3.0, XML, CSV, Excel
Sample Preparation (add/incubate reagents)²⁾	flexible configurations upon request
Sample Re-Suspension	yes
Compact Size	415 x 270 x 360 mm (w x h x d), 8 kg (750 x 295 x 360 mm (w x h x d), 14 kg including sample loader ²⁾)
Standards	CE (Safety, EMC), CDRH/FDA ³⁾ , RoHS (EU/China), TÜV ISO 9001:2015 (QA manufacturer certificate)



Application Configurations

(details and other application configurations upon request)

Article No. Config. Code	Applications	Light Sources Excitation ¹⁾	#	Optical Channels
09-4000 -LEDUV-1P	Ploidy Analysis (UV)	LED UV 465 nm/500 mW	1	FL1 Blue (> 435 nm), DAPI
09-4000 -LEDUVLASG-2P	Ploidy Analysis (UV/PI)	LED UV 465 nm/500 mW Laser Green 530 nm/30 mW	2	FL1 Blue(> 435 nm), DAPI FL2 Orange (>530 nm), PI
09-4000 -LASB-3P	Cell Counting Process Control (Life/Dead)	Laser Blue 488 nm/50 mW	3	SSC Side Scatter FL1 Green (510-540 nm), FITC, FDA FL2 Orange (540-590 nm), PE, PI
09-4000 -LASB2-5P	Cell Counting and Analysis Lab-on-Bead Analysis	Laser Blue 488 nm/200 mW	5	FSC Forward Scatter SSC Side Scatter FL1 Green (510-540 nm: FITC, FDA, GFP, ...) FL2 Orange (540-590 nm: PE, PI, ...) FL3 Red (>590 nm: Cy5, ...)

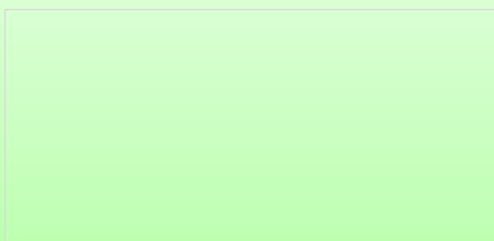
¹⁾ application and configuration dependent ²⁾ option ³⁾ in preparation PI = Propidium Iodide PE = Phycoerythrine

Options

Article No. Config. Code	Option
09-4000 xxx-A	Multiwell Sample Autoloader (well plates and sample vial racks)
upon request	Color Laser Printer
upon request	pantau® Single Photon Detection

Accessories, Reagents, Disposables, Spare Parts

Article No.	Option
upon request	Nuclei Extractor (for well plates)
upon request	Extractor Ball Spender (for well plates)
upon request	Quantum Stain UV and PI for DNA
upon request	Cleaning Reagents
upon request	Calibration Check Beads
upon request	Sample Vials, Well Plates
upon request	Tubing Replacement Sets



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