

# Configurations & Specifications

## Quantum P Flow Cytometer

### Frequently Used configurations

Plant Breeding Application	Analysis type	Light Sources Excitation	Optical Channels
<b>Cell Vitality &amp; Counting</b> - pollen - spores (fungi) - bacteria - etc.	FDA / PI <sup>(1)</sup> stained cell analysis	Laser Blue 488 nm/200 mW	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, ...)
<b>Ploidy Analysis</b>	DAPI stained DNA analysis	LED UV 365 nm/500 mW (UV/PI)	FL1 Blue(> 435 nm), DAPI
<b>DNA-content</b>	PI stained DNA analysis	Laser Green 530 nm/30 mW	FL1 Orange (>530 nm), PI
<b>Ploidy Analysis &amp; DNA-content</b>	DAPI / PI stained DNA analysis	LED UV 365 nm/500 mW (UV/PI) Laser Green 530 nm/30 mW	FL1 Blue(> 435 nm), DAPI FL2 Orange (>530 nm), PI
<b>All of the above</b> - advised for flow cytometry R&D purposes	DAPI / PI stained DNA analysis FDA / PI stained cell analysis	Laser UV 375nm / 60mW Laser Blue 488 nm/200 mW	FSC Forward Scatter SSC Side Scatter (blue laser) SSC Side Scatter (UV laser) FL1 Green (510-540 nm: FITC, FDA, GFP, ...) FL2 Orange (540-590 nm: PE, PI, ...) FL3 Red (>590 nm: Cy5, ...) FL4 Blue(> 435 nm), DAPI
<b>Custom</b>	Custom build <sup>(2)</sup>	Contact us for additional options	

### Features and Specification

Feature	Specification
<b>Analysis Time<sup>(3)</sup></b>	Manual: <30 s/sample 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
<b>Counting Precision/Accuracy</b>	1%/3% (standard deviation)
<b>Analysis Volume Range</b>	5-1000 µl
<b>Minimum Sample Volume</b>	50 µl
<b>Sample Cross Contamination<sup>(3)</sup></b>	<0.1%
<b>Particle Size Range</b>	0.05-100 µm
<b>Molecular Sensitivity<sup>(3)</sup></b>	<500 MESFL
<b>Sample Analysis Speed</b>	0.5-20 µl/s
<b>Supported Sample Entry</b>	3.5 ml tube 96, 384 well plate (including deep wells)
<b>Customer Specific Configurations</b>	Open system design, individual support
<b>Excitation Light Source<sup>(3)</sup></b>	Solid state laser Light emitting diode (LED)
<b>Optical Detection<sup>(3)</sup></b>	High efficiency light collection Modular spectral selection filter sets (user exchangeable) Photomultiplier (PMT) with wide dynamic range Single Photon Detection (pantau® technology) <sup>(4)</sup> Flow quality camera
<b>Software/Computer System</b>	CyPAD® instrument control and data analysis Linear/2D barcode support Configured compact personal computer Ethernet connection Microsoft Windows 10 Multi- touch monitor Keyboard + mouse
<b>Automated Results Reporting</b>	Microsoft Excel (macro-free), XML, LIMS connections
<b>Data Formats</b>	FCS 3.0, XML, CSV, Excel
<b>Sample Preparation (add/incubate reagents)<sup>(4)</sup></b>	Flexible configurations upon request
<b>Sample Re-Suspension</b>	Yes
<b>Compact Size</b>	415 x 270 x 360 mm (w x h x d), 8 kg 750 x 295 x 360 mm, 14 kg including sample loader <sup>(4)</sup>
<b>Standards</b>	CE (Safety, EMC) CDRH/FDA RoHS (EU/China) TUV ISO 9001:2015

### Notes

(1) PI = Propidium Iodide

(2) Any combination of light sources and optical channels is possible (eg. Ploidy determination + pollen vitality in one Quantum P).

For easier maintenance we recommend using different setups for each application.

(3) Application and configuration dependent

(4) Optional

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