

# CyFlow<sup>®</sup> Cube series

## Appealing from every angle



CUB<sub>8</sub>



CUB<sub>6</sub>

# CyFlow<sup>®</sup> Cube 6 and Cube 8: compact, economic flow cytometers with a great performance

## *Panta rhei* – a flexible solution for demands in flow

Using flow cytometry (FCM) need no longer be limited to high-end cell biology laboratories or core facilities. When performing basic research and/or industrial monitoring, you need easy and cost-effective access to FCM technology with various standard routine applications, such as cell counting, viability testing or the ability to determine apoptosis.

You need modern FCM technology in the shape of fully integrated and compact systems. They have to be simple to use and robust enough to fulfil a role as your laboratory 'work horse'. And a reliable and seamless workflow is a 'must'.

The budget is crucial. You need a high-quality solution that is economical yet flexible enough to be adapted to your flowing needs. Our solutions ensure your financial investment can be moderate, with an affordable total cost of ownership thanks to low service and calibration costs.



★ reddot design award  
winner 2012  
(CyFlow<sup>®</sup> Cube 8)



reddot design award  
best of the best 2013  
(CyFlow<sup>®</sup> Cube 6)

### CyFlow® Cube series – compact and economic

Our CyFlow® Cube series features two models, the CyFlow® Cube 6 and the CyFlow® Cube 8. These innovative stand-alone flow cytometers offer all you need to precisely acquire cells/particles from samples in a single, compact device – a powerful, network-ready computer, a foldable TFT monitor, and state of the art software (Cube 6 and Cube 8). FCM technology integrated in a new, award-winning\* product design – it's appealing from every angle.

Economic viability is crucial in research and industry. While the underlying technology is of superb quality, maintenance and running costs are low. And thanks to optimal customisation possibilities, your investment and operational costs are markedly reduced.

*Fluorescence-based flow cytometry (FCM) was invented by Partec in 1968. Today Sysmex Partec can look back on over 45 years' experience in this demanding field. We continue to develop and manufacture our own technologies and instruments, with almost 80% created in-house.*

*As a result, Sysmex Partec stands for high precision and quality 'Made in Germany'. Our technology and intense knowledge are appreciated in various fields, such as basic research, industrial applications and the essential healthcare market.*

## From basic applications to optimised solutions for individual assays

The modular architecture of the Sysmex Partec CyFlow® Cube instruments offers you a variable choice of configurations to match your applications. Customise your device now, and then adapt it for your next project. You can select from a portfolio of different lasers, optical parameters, an auto-loading station and even a sorter module (Cube 8). This technological advantage lets you adapt your instrument to suit most applications in industry and research.

### CyFlow® Robby Autoloading Stations

There are two different models available. The Robby 6 and Robby 8 complement the Cube 6 and Cube 8 instruments to which they are directly connected. Our auto-loading stations are controlled by the CyView™ operating software and let you quickly load your flow cytometer – automatically and accurately. Both stations can read standard 2 x 96 well plates and up to 120 tubes from a single load. The sample-to-sample cleaning procedure is flexible with a low carry-over.

### CyFlow® Cube Sorter Module

The cell sorter module is one of Sysmex Partec's unique technical solutions. As an optional add-on for

the CyFlow® Cube 8 it combines a flow chamber with a piezo element, including electric activation. This cell sorter lets you sort cells or particles stably and non-destructively with high yield and purity. It works as a closed system and, in contrast to typical droplet sorters, the process is smooth with reduced mechanical stress. This is important when working with fragile cell types, such as e.g. neuronal stem cells. As a closed sorting solution, it is aerosol-free so you avoid biohazardous exposure yet lets you deliver sterile sorting of viable cells for subsequent cell culture. To ensure your environment stays sterile too, you can place your CyFlow® Cube 8 Sorter under a standard clean bench – it's easy thanks to its compact footprint.



CyFlow® Cube 6 with Robby 6 Autoloading Station



CyFlow® Cube 8 with Robby 8 Autoloading Station



## CyFlow<sup>®</sup> Cube 6

This cost-effective system is our most compact flow cytometer. It comes in three basic configurations with the most commonly used lasers, blue 488 nm and red 638 nm, and with up to six optical parameters. You can expand this space-saving instrument with an autoloading station.

### **Quality through experience**

*Our instruments provide premium technology with high stability, sensitivity and resolution. The stability of the optical bench leads to a virtually calibration-free system with no need for daily functional verification. Its precision blends in excellently with the accurate fluidic system in variable configurations.*

*This high standard of the optical bench is complemented by an electronic and computer system to match that generates the basis for real-time signal analysis and processing with high fluorescence and scatter sensitivity.*



## CyFlow<sup>®</sup> Cube 8

This model is more flexible and modular. You can configure it individually by choosing from ten different light sources and numerous optical filter sets. You can combine up to three lasers and a UV LED with up to eight optical parameters in your system. You can expand your CyFlow<sup>®</sup> Cube 8 with an autoloading station and/or integrate a piezo-electric cell sorter module.

## Operational simplicity supports your workflow

CyFlow® Cube instruments impress with their accessibility, simplicity and intuitive operation. And since they take less than five minutes to start up, you can get to work in the mornings pretty much straight away.

CyView™, the Cube series' software, provides a simple setup process and sample process management. This too helps you save valuable time in your laboratory. CyView™ supports three analysis technologies: a pre-selected event limit in regions, a syringe-controlled volumetric measurement and the special 'True Volumetric Absolute Counting' (TVAC) – Sysmex Partec's unique counting principle that requires no time-consuming and cost-intensive reference counting beads.

With CyView™, you get a convenient tool for data acquisition and an adaptable operating tool for each application. Its basic functions and many other helpful tools provide instrument control and acquisition, on- and offline data analysis, compensation and safe data management. You can use CyView™ for various applications in cell biology, biotechnology and microbiology, and in industrial monitoring processes, such as beverage control.

For highly advanced data analysis and report generation, an FCS Express™ 5 Flow Cytometry – RUO\* (De Novo Software™) licence is included with your CyFlow® Cube 6 and 8. You can use FCS Express™ on the CyFlow® Cube instruments and on office computers.



*The CyFlow® Cube analysers offer customizable report capabilities through FCS Express™.*

\* FCS Express™ and De Novo Software™ are registered trademarks of De Novo Software.

## Technical specifications

Lasers / LEDs	Detectors	Exemplary dyes	Available for
<b>BLUE LASER</b> 488 nm (50 mW fixed/ adjustable to 200 mW for Cube 8)	■ Green ■ Orange ■ Orange Red ■ Red I ■ Red II ■ Far Red	FITC / GFP / Alexa Fluor® 488 PE / YFP PE-Texas Red® / PI PE-Cy5 / PerCP PE-Cy5.5 / PerCP-Cy™ 5.5 PE-Cy7	Cube 6, Cube 8
<b>RED LASER</b> 638 nm (25 mW) 640 nm (40 mW) for Cube 8	■ Red I ■ Red II ■ Far Red	APC / APC-Cy™ 5 APC-Cy™ 5.5 / Cy™ 5.5 APC-Cy™ 7	Cube 6, Cube 8
<b>VIOLET LASER</b> 405 nm (100 mW)	■ Blue ■ Green ■ Orange	Pacific Blue™ / Alexa Fluor® 405 / CFP Cyan / AmCyan / brilliant violet™ 510 Pacific Orange™ / brilliant violet™ 605	Cube 8
<b>UV LASER</b> 375 nm (60 mW) <b>HIGH-POWER UV LED</b> 365 nm	■ Blue	DAPI / Hoechst 3342	Cube 8
<b>GREEN LASER</b> 532 nm (30 / 100 mW)	■ Orange ■ Red	mStrawberry / PE mCherry / PI / PE-Texas Red®	Cube 8
<b>YELLOW LASER</b> 561 nm (100 mW)	■ Orange ■ Red	PE / DS Red / PE-Texas Red® PE-Cy5 / PI / mCherry / mRuby	Cube 8
<b>ORANGE LASER</b> 594 nm (50 mW)	■ Orange Red ■ Red ■ Far Red	Texas Red® / Alexa Fluor® 594 / mStrawberry APC / mCherry / mRFP / JRed mPlum	Cube 8

Available light sources and exemplary detector configurations

### Instrument models

- CyFlow® Cube 6, CyFlow® Cube 8

### Light sources and optics

- CyFlow® Cube 6:  
optical parameters: max. 6 (4 colours + FSC + SSC)  
light sources: max. 2 lasers (488 nm and 638 nm)
- CyFlow® Cube 8:  
optical parameters: max. 8 (6 colours + FSC + SSC)  
light sources: max. 3 lasers plus UV LED
- CyFlow® Cube Sorter (Cube 8 with integrated sorter module):  
optical parameters: max. 5 (3 colours + FSC + SSC),  
light sources: max. 2 lasers
- optical parameters with selected PMTs and exchangeable optical filters

### Flow system

- Quartz flow cuvette for laminar sample transport and hydrodynamic focusing with sheath fluid
- Sample port with biosafety cleaning system
- True Volumetric Absolute Counting (TVAC) based on mechanical volume measurement
- Computer-controlled syringe pump speed, continuously adjustable from 0–20 µL/s

### Electronics and signal processing

- Selectable linear or 4-decade logarithmic scale
- 16-bit analogue-to-digital converters, selectable trigger parameter and individual threshold level settings

### Software

- Operating system: Microsoft Windows™
- CyView™ operating software for real-time data acquisition, analysis and display
- FCS Express 5 Flow Cytometry – RUO (De Novo Software (USA)) for data analysis on a CyFlow® Cube system or external PC

### Computer system

- Integrated Microsoft Windows™ PC with Microsoft Office® and network capability
- Integrated, foldable colour LCD TFT display (15" Cube 6/19" Cube 8)
- USB and Ethernet ports
- DeskJet colour printer, printing via network

### Options

- CyFlow® Robby 6 Autoloading Station for CyFlow® Cube 6, CyFlow® Robby 8 Autoloading Station for CyFlow® Cube 8
- CyFlow® Cube Sorter module for CyFlow® Cube 8

### Weight

- Cube 6: 18 kg; Cube 8: 40 kg

### Dimensions (WxHxD)

- Cube 6: 385 x 290 x 280 mm; with open display 528 mm height
- Cube 8: 500 x 370 x 470 mm; with open display 670 mm height

Design and specifications may be subject to change due to further product development. Changes are confirmed by their appearance on a newer document and verification according to its date of issue.

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