

Product Fact Sheet

CyFlow™ RP-300 Ploidy Analyzer / CyFlow™ RP-310 Ploidy Analyzer with CyFlow™ AL-30 Autoloader

The Analyzer
made for ploidy and genome size analysis

Product pictures



Product name

CyFlow™ RP-300 Ploidy Analyzer
CyFlow™ RP-310 Ploidy Analyzer
with CyFlow™ AL-30 Autoloader

Manufacturer information



Sysmex Partec GmbH

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Germany

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Sysmex Partec is an ISO 9001:2015 and EN ISO 13485:2016 certified company.

Summary

The CyFlow™ RP-300 Ploidy Analyzer and the CyFlow™ RP-310 Ploidy Analyzer are the dedicated Sysmex Partec flow cytometers for ploidy and genome size applications. These compact bench-top flow cytometers are the only stand-

alone-solutions in the market for ploidy and genome size analysis and are especially designed for this

purpose. The RP analyzers deliver ploidy and genome size information from plant and animal material in a fast, accurate, save, sensitive, standardized and, if desired automated manner. As stand-alone device or in combination with the high-speed autoloader AL-30 the RP systems can be used for the Quality Control in production as well as for research analysis in small, mid-sized, and high throughput sites. The CyFlow™ AL-30 Autoloader combines high-speed measurements and high sample throughput with an elevated level of precision. Samples can be presented in different well plate formats and sample tube racks. Reagent test kits for the simple and fast manual or automatic preparation of samples from different origin and of different quality together with a dedicated data analysis software complete the Sysmex solution. The customer friendly CyView™ Windows-based software provides instrument control, data acquisition, data analysis, automatic reporting and additional functions like barcode reading and emergency sample measurements.

Productivity values

With the CyFlow™ RP-300 Ploidy Analyzer and CyFlow™ RP-310 Ploidy Analyzer in combination with dedicated reagents and QC procedures Sysmex Partec offers the complete solution for nuclear DNA quantification. Standardized workflows open for customization providing an ultimate degree of automatization are responding the needs for high sample throughput, consistent quality, reliability, and objective clear-cut results.

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You will find your local Sysmex representative's address under www.sysmex-partec.com

Main features of the CyFlow RP-300/RP-310 Ploidy Analyzer

- RP-300 equipped with an UV LED 365 nm and 1 optical parameter for detecting DAPI
- RP-310 equipped with an UV LED 365 nm, a Nd-YAG green laser 532 nm (30 mW) and 2 optical parameters for detecting propidium iodide PI and DAPI or SSC
- Start-up time < 5min
- Standardized workflows and instrument QC procedures
- Open for customization
- Guided procedures for system prime / system QC / Shut-down
- Application specific QC procedure
- Levy-Jenning statistics
- LIMS connectivity

and the CyFlow AL-30 Autoloader

- High-speed sample feeding and analysis – one 96-well-plate < 30 min
- Protective, complete closed housing
- Start-up time < 5 min
- Adaptive cleaning: sample-depending automatic selection of cleaning intensity Interruption of routine operation for the analysis of urgent samples (emergency samples)
- Barcode reader for automatic rack ID registration

Article numbers

Article number	Item
AW755564	CyFlow™ RP-300 Ploidy Analyzer
AQ836402	CyFlow™ RP-310 Ploidy Analyzer
CL539925	CyFlow™ AL-30 Autoloader

Specifications

Features	Description
Parameters	■ RP-300: 1 optical parameter for DAPI ■ RP-310: 2 optical parameters for propidium iodide PI and DAPI or SSC ■ Time parameter

Light source	■ RP-300: UV LED 365 nm ■ RP-310: UV LED 365 nm and Nd-YAG green laser 532 nm (30 mW)
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Optics	■ Optical system with selected PMTs with integrated electronic preamplifier for FL1 resp. SSC /FL1
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Flow System	■ Quartz flow cuvette for laminar sample transport and hydro-dynamic focusing ■ Completely closed fluidic system ■ Dual-loop-system for high-speed measurements with CyFlow™ AL-30 Autoloader – parallel processing of two samples Sample port with biosafety cleaning system ■ True Volumetric Absolute Counting based on direct volume measurement ■ Sample volume: ■ 10 µL to 1000 µL for the manual sample port of RP-300/RP-310 ■ 10 µL to 180 µL for measurements for the AL-30 ■ Minimum volume requirements: ■ 780 µL with the manual sample port ■ 60µL /well for acquired sample volumes of > 10µL with AL-30 ■ Additional 30µL /Well for acquired sample volume of > 50µL with AL-30 ■ Sample flow adjustable from 0.5µL/s to 5µL/s ■ Easily accessible sheath fluid and waste reservoirs with fluid level sensors
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Microplates and sample tubes	■ 96-Well-Plate, V, U and flat-bottom type are ■ 96-Deep-Well plates ■ 48- Well plates ■ Plates meeting the Standards (ANIS/SLAS 1-2004 through 4-2004) ■ Up to 60 2 mL sample tubes
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Speed

- < 30min for measurement of one 96 well plate (10µl sample volume, 1µl/s)

System cleaning

- Selection of 3 different cleaning options (no cleaning– standard cleaning– intense cleaning)
- Adaptive cleaning – cleaning intensity depending on the particle density of the previous sample
- Automatic wash steps between each sample with AL-30 measurements

Carry Over (AL-30)

- < 0.1 % (with intensive sample-to-sample cleaning)
- < 0.5% (with standard sample-to-sample cleaning)
- < 0.75 % (without cleaning)

QC function

- Control of instrument alignment and power (laser adjustment) with real-time user guidance and automatic reports (FCS Express, De Novo Software)
- Application specific QC procedures with real-time user guidance and automatic reports (FCS Express, De Novo Software) on request

Electronics

- Digital electronic
- Data resolution of 18bit
- Acquisition rate of 15,000 events/s
- Single and multiple triggers on any parameter or combination of parameters, selectable in software
- Individual threshold level settings

Computer

- Microsoft Windows™ PC
- CPU: Intel i5 (or higher), 4-core
- Memory: 16 GB (or above)
- Storage: 250 GB (or above)
- Connections: min. 3x USB (min. USB 2.0), DisplayPort, LAN

- Technical requirements for monitor: 22 inch (Full HD, DisplayPort or DVI)
- Microsoft Windows™ 10 professional 64-bit operating system
- Ethernet connection

Dimensions (L x W x H)

- RP-300/RP-310: 399 mm x 426 mm x 395 mm (15.7 in x 16.7 in x 15.5 in)
- AL-30: 317mm x 390mm x 395mm (12.5 in x 15.3 in x 15.5 in)

Weight

- ≤ 35 kg (77 lb)
- AL-30: 13,1 kg (28.9 lb)

Interface

- USB, LAN, video output

Operative temperature

- 15 °C to 30 °C (59 °F to 86 °F)

Operative humidity

- 20 % to 80 % relative, non-condensing

Noise

- < 80 dBA

Overvoltage category

- 2 / II

Power consumption

- 100 V AC / 35 VA
- 240 V AC / 50 VA

EMC class

- Class A

Degree of protection

- IP00

Software

- CyView™ software for instrument control, data acquisition and real-time data analysis
- Guided prime and shutdown procedures
- Easy experimental template set up
- Flow cytometry standard file format for storage of original and evaluated data

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CyFlow™ AL-30 Autoloader



Software	■ Variable 1 parameter histograms and 2 parameter dot plots ■ Time parameter ■ Linear scale or 4-decade logarithmic scale ■ Software-based lin/log transformation ■ Analysis pre-selectable on time, number of events or sample volume ■ Multi parameter online/offline crosstalk compensation ■ Multi parameter gating ■ User management ■ Panel and Worklist management ■ Data export management ■ FCS Express software for data analysis and reporting ■ LIMS connectivity ■ Levy-Jennings plots for QC
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