

# XF-1600™ Flow Cytometer

For Research Use Only. Not for use in diagnostic procedures. RUO instruments must be validated before use in clinical practice.

A close-up photograph showing a person's hands in blue nitrile gloves carefully placing a multi-well plate into a flow cytometer. The plate is held by a white robotic arm. The instrument's white door is open, revealing the internal sample chamber. The background is a clean, light-colored laboratory setting.

Expert Technology  
for Laboratories

# XF-1600 Flow Cytometer

Sysmex, a global leader in the disciplines of hematology, urinalysis and hemostasis and a provider of trusted automated workflow solutions, now offers scientists a unique and innovative flow cytometry system for robust data collection.

The XF-1600 integrates a multi-laser optical layout with Sysmex's proven fluidics design for reliable performance in a flow cytometer. Stable fluidics—even at high sample acquisition rates—ensure the system is capable of rapid data collection and analysis with high sensitivity. The XF-1600 also provides the option of a lower sampling rate for increased measurement precision.

## Designed for increased stability



**FLEXIBLE SPECIMEN HANDLING**

**RARE EVENT ANALYSIS CAPABILITY**

**RAPID DATA ACQUISITION WITHOUT LOSS OF SENSITIVITY**

**INTUITIVE SOFTWARE WITH AUTOMATED QC AND OPTIONAL OFF-LINE ANALYSIS SOLUTION**

**TOP-RATED SERVICE SYSMEX IS KNOWN FOR**

## Technology meets reliability

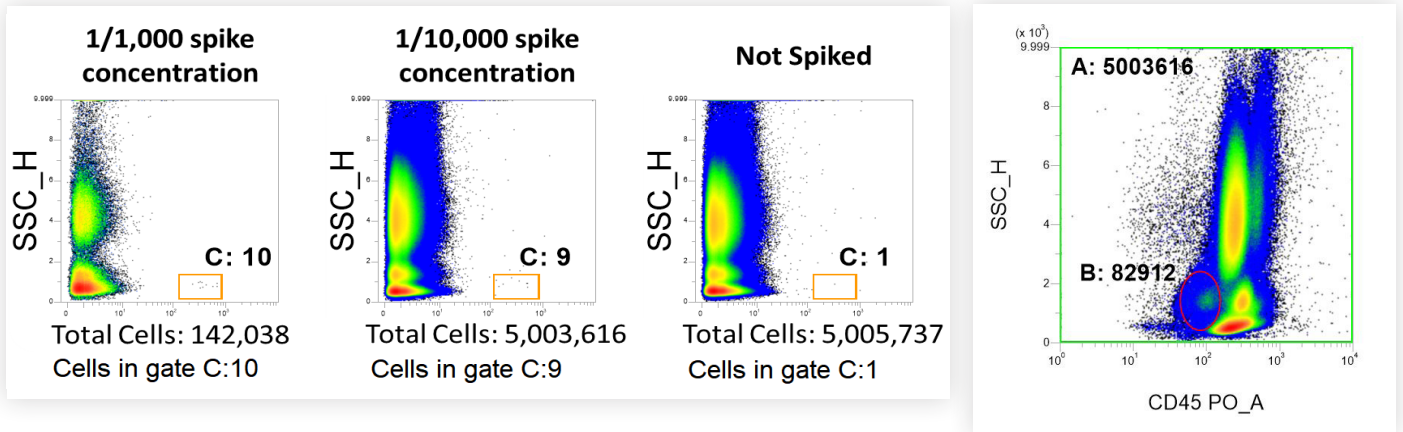
The XF-1600 uses innovative technology and fluidics to provide high detection sensitivity even at high sheath velocity, allowing for rapid data acquisition. Like Sysmex's clinical testing platforms, the XF-1600 flow cytometer is backed by the exceptional service and reliability laboratories expect from a global leader in hematology.

- 37 measurable parameters simultaneously record signal-Area, -Height and -Width data from 12 detection channels
- Linear, log and logicle plots are available for data acquisition
- Complete array of quality control products with automated QC setup
- Proven Sysmex fluidics design

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# Powerful Rare Event Mode with excellent data resolution

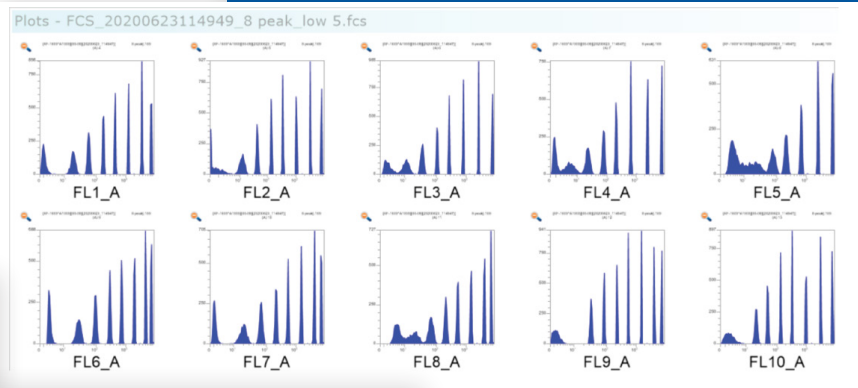
With the growing interest for rare event analysis, the XF-1600 incorporates a Rare Event Mode (REM) based on established hematology technology. The system allows users a choice of six aspiration volumes which analyze up to 2 mL of specimen for low carryover and Limit of Blank (LoB).



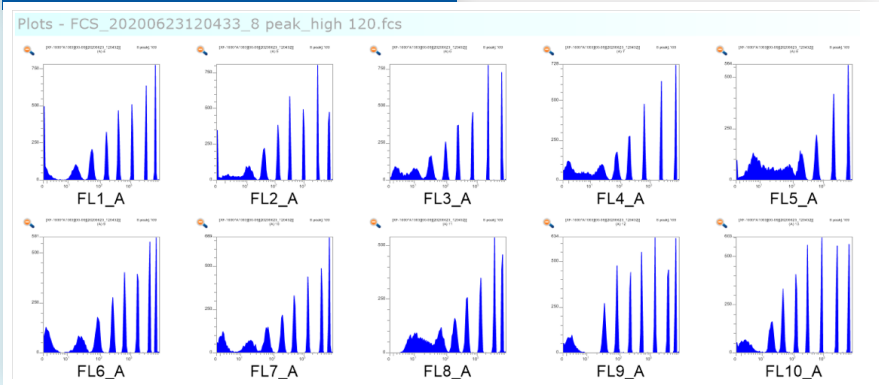
Five adjustable sample rates - from 5  $\mu\text{L}/\text{min}$  to 120  $\mu\text{L}/\text{min}$  - provide flexibility for all sample types, titer levels and cell concentrations. At high sheath velocity, fast data acquisition rates – up to 50,000 events per second - reduce the overall sample acquisition time while maintaining sensitivity required for rare event analysis.

Data acquisition rates up to 50,000 events per second reduce overall analysis time and provide for an impressive 5 million events of robust data collection

## 8 Peak Beads at 5 $\mu\text{L}/\text{minute}$ flow rate

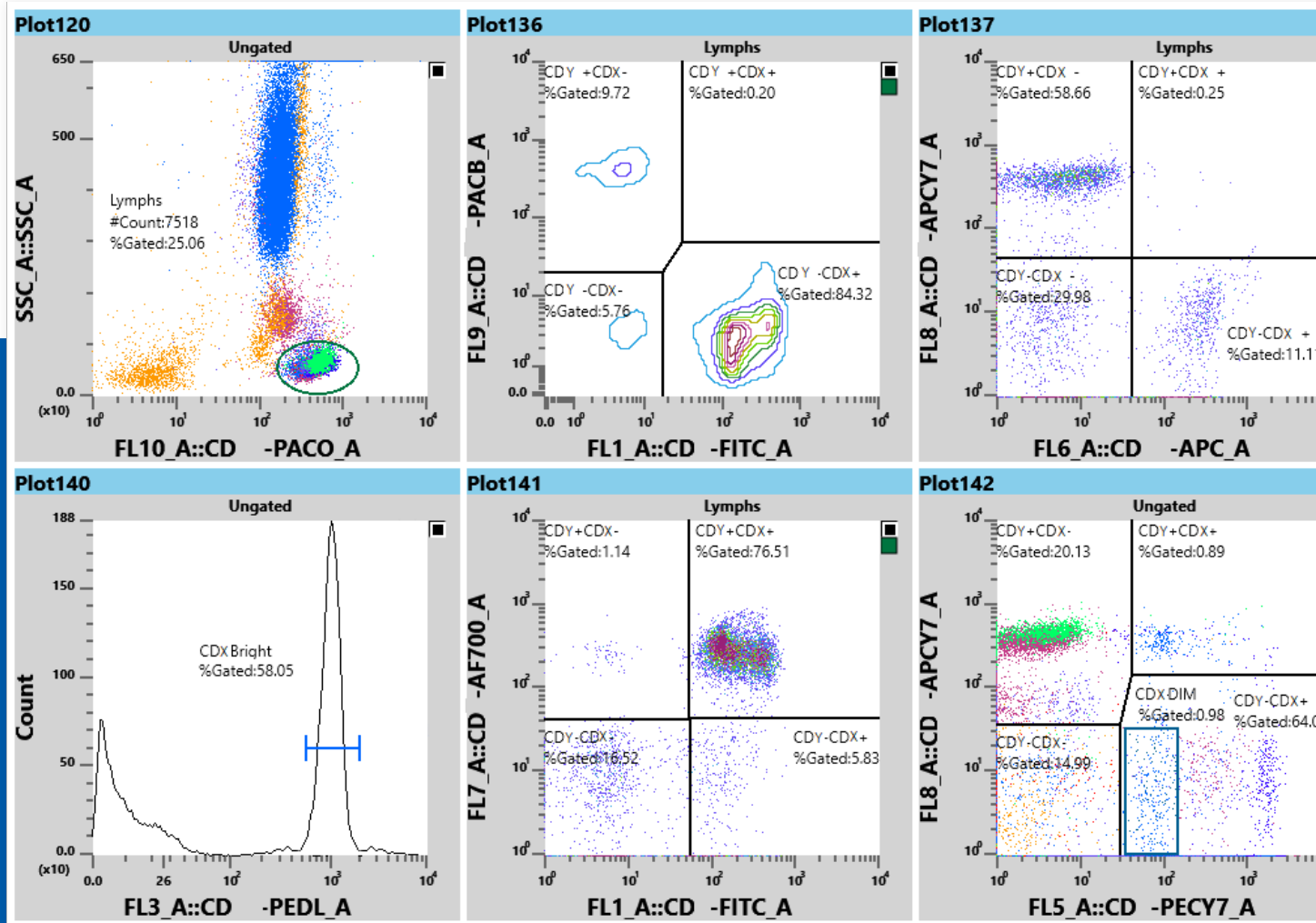


## 8 Peak Beads at 120 $\mu\text{L}/\text{minute}$ flow rate



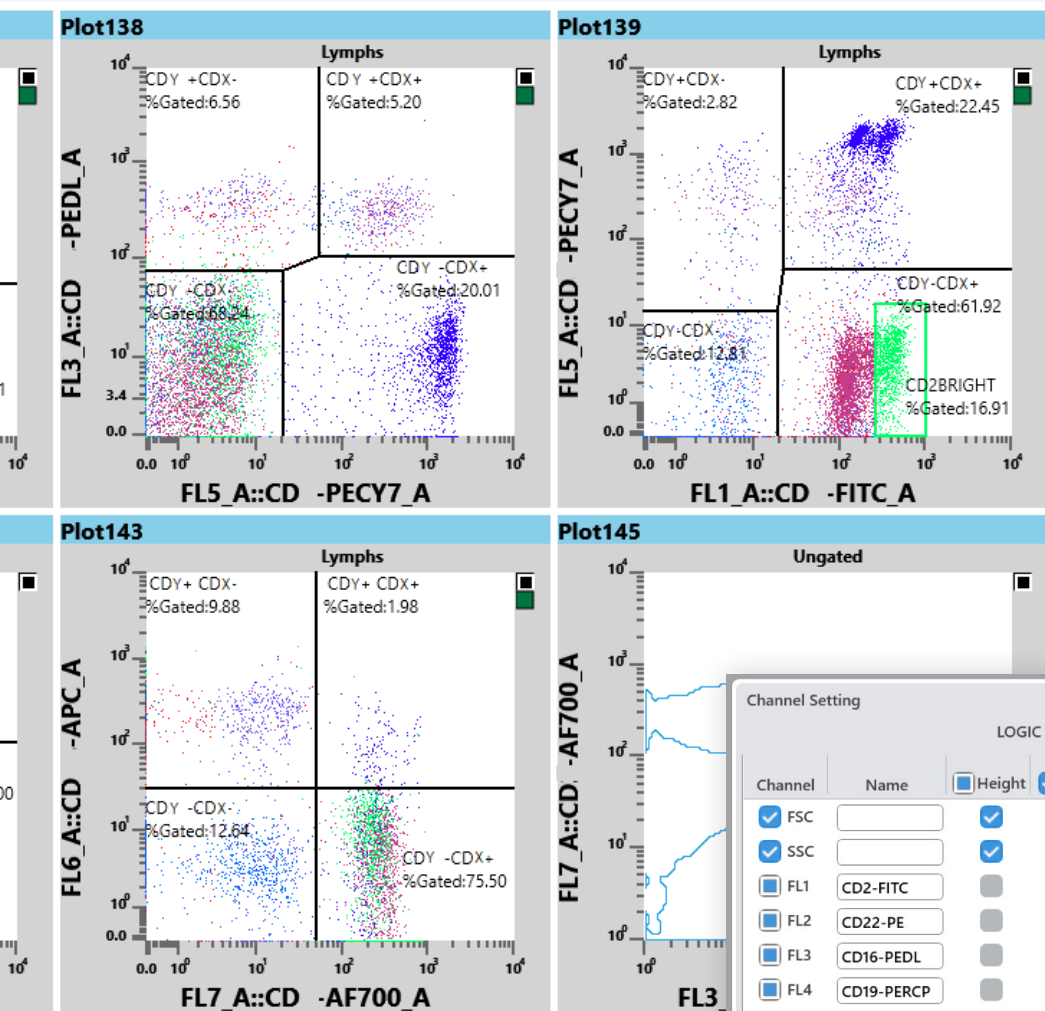
# Intuitive XF-1600 software

Sysmex's intuitive user interface makes the XF-1600 easy to use for all lab staff. Choose from a variety of plot options including linear, log and logicle axis scaling for single or dual parameter plot types with selectable statistics.



Data is for representative purposes only. Complex tests must be validated by laboratories.

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Channel Setting

LOGIC  OR  AND

Channel	Name	Height	Area	Width	Threshold	Gain/PMT
		1-2500				0-2560 / 0-1100
<input checked="" type="checkbox"/>	FSC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2500	333
<input checked="" type="checkbox"/>	SSC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	515
<input type="checkbox"/>	FL1 CD2-FITC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	628
<input type="checkbox"/>	FL2 CD22-PE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	585
<input type="checkbox"/>	FL3 CD16-PEDL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	655
<input type="checkbox"/>	FL4 CD19-PERCP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	665
<input type="checkbox"/>	FL5 CD8-PECY7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	658
<input type="checkbox"/>	FL6 CD56-APC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	785
<input type="checkbox"/>	FL7 CD3-AF700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	730
<input type="checkbox"/>	FL8 CD4-APCY7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	680
<input type="checkbox"/>	FL9 CD20-PACB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	504
<input type="checkbox"/>	FL10 CD45-PACO	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	575

Flow Rate:  High  Middle  Low  
 Volume Required: 60 uL

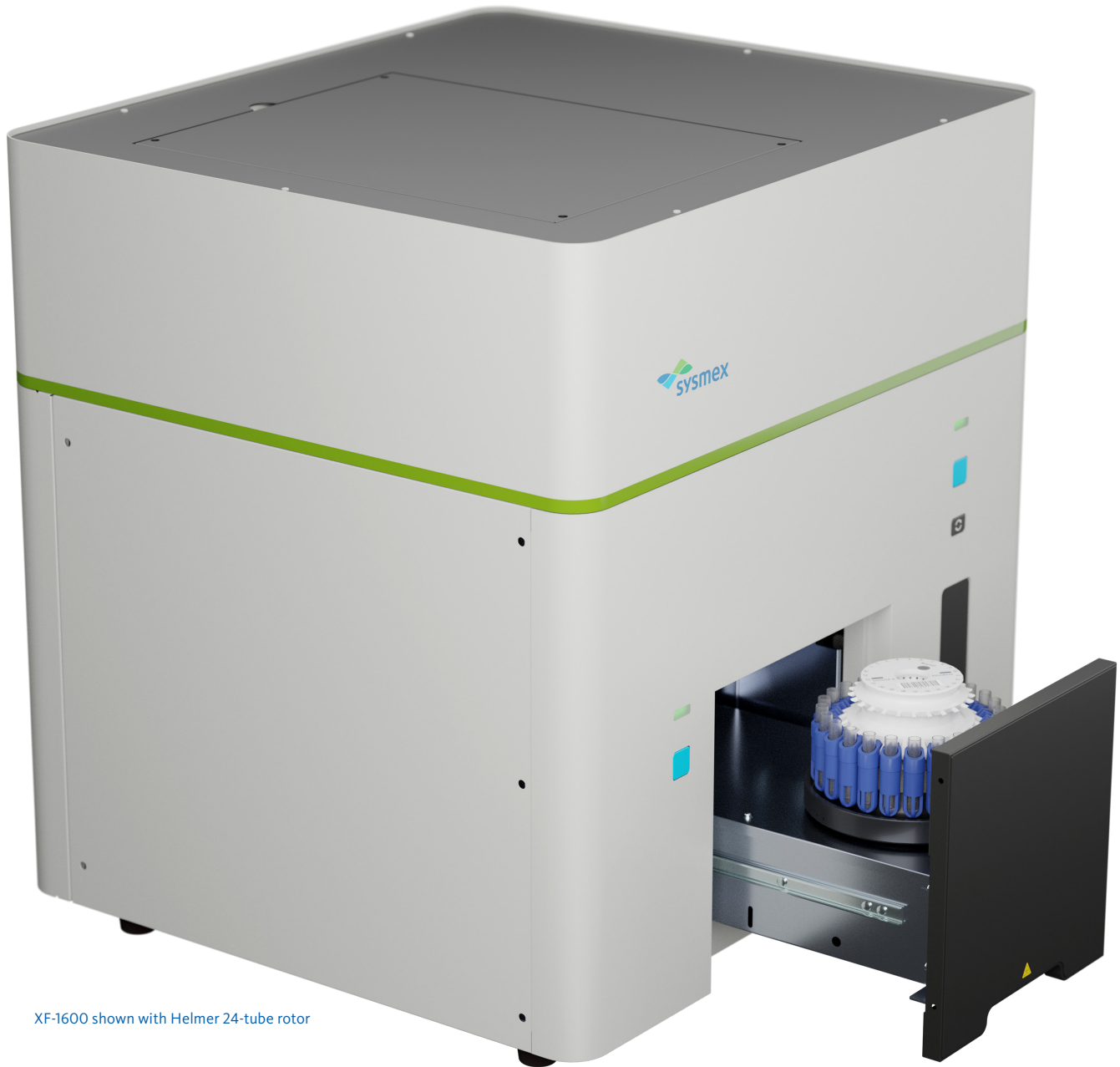
Laser: 488 (Blue), 638 (Red), 405 (Purple) [nm]

Stop Setting  
 Event Count  Stop Condition: Ungated Event Count: 30000  
 Time  Stop Time: 68 Seconds (5s-226s)

**Variety of options for panel customization:**

- Easy selection and input of channel settings
- 5 different flow rates
- Volume selection of up to 2 mL
- Multiple stop settings based off Events or Time

# A flexible approach to sample handling



XF-1600 shown with Helmer 24-tube rotor

If your valuable specimens require special attention, the XF-1600 provides unique sampling options. Single tube processing can be performed on a variety of tube sizes with selectable aspiration volumes to ensure minimal sample waste and protection against accidental sample loss. Alternatively, samples can be loaded on a Sysmex compatible rotor for automated walk-away acquisition.

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## Seamless integration

For exceptional efficiency, Sysmex offers additional options for streamlining workflow in the flow cytometry lab.

### PS-10™ Sample Preparation System

The PS-10 Sample Preparation System performs many of the manual tasks associated with preparing your flow samples, freeing up valuable time for your techs. The PS-10 provides excellent sample viability, high cell recovery and reproducible results, instilling trust and confidence in your data.

### Helmer UltraCW® II Automatic Cell Washing System

For procedures that include wash steps, the Helmer UltraCW II Automatic Cell Washing System integrates seamlessly into your flow lab processes. The barcoded rotors are compatible with the XF-1600 and PS-10, offering positive identification to ensure traceability through the laboratory.

### VenturiOne® Software

VenturiOne offline analysis software provides high-speed processing of up to 400 data files, with unique and robust data previews that make plot creation simple and quick. Autogating, hyperlog slides and versatile color compensation put powerful analytics in your hands.

# Specifications

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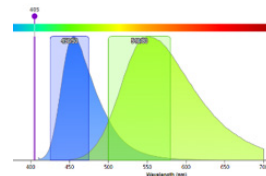
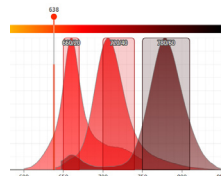
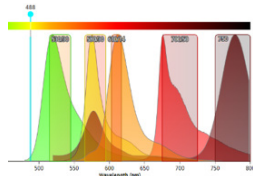
## Principles and Technology

Standard single tube loading port and rotor-based autoloader with optional sample mixing capabilities  
3 spatially separated lasers: 405 nm, 488 nm, and 638 nm  
Operating system (OS): Windows® 10 professional (64bit)  
FCS format 3.0

## Fluorescence Detectors

10 fluorescent channels

Laser	Channel	Filter	Laser	Channel	Filter
488 nm	FL1	530/30	638 nm	FL6	660/20
	FL2	580/30		FL7	720/40
	FL3	610/14		FL8	780/60
	FL4	700/50	FL9	450/50	
	FL5	750 LP	FL10	540/80	



## Sample Flow Rate

Low: 5 µL per minute  
Medium: 30 µL per minute and 60 µL per minute  
High: 90 µL per minute and 120 µL per minute

## Sensitivity: MESF

FITC < 100  
PE < 50  
APC < 100  
Particle Resolution - 0.5 µm on scatter and up to 50 µm

## Features

Fast data acquisition rates up to 50,000 events per second and 5 million events from 37 parameters including Height, Area, Width and Time  
Carry-over at 0.1% in Standard mode  
PS-10 compatible

## Dimensions and Weight

Approx. 27.5 (W) X 25.0 (D) X 29.0 (H) in., approx. 220 lbs  
700 (W) x 630 (D) x 740 (H) mm, approx. 100 kg



## Award Winning Service, Reliability and Training

For over half a century, Sysmex has been providing diagnostic equipment to clinical labs around the globe. Years of experience utilizing flow cytometry principles in hematology and urinalysis instrumentation have led to the development of the XF-1600, our first flow cytometer for research use.

Sysmex is well known for providing best-in-class service and reliability alongside our superior technology. A continuum of education, from on-line to laboratory-based training opportunities, is provided by the award-winning Center for Learning. Additionally, Sysmex's hematology systems consistently earn the Best Service, Best Customer Satisfaction and Best System Performance awards\* from IMV ServiceTrak™ and nine of the top ten cancer care hospitals in the United States use Sysmex analyzers.†

\*Source: <https://imvinfo.com/press-room/imv-servicetrak-awards-for-clinical-laboratory-instruments-announced-today/>

†Source: <https://health.usnews.com/best-hospitals>

**For the Technical Assistance Center (TAC), call 1-888-879-7639 or 1-847-367-3503. Available 24/7 including holidays. For Canada call 1-888-679-7639.**

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