



SFLO series Full-spectrum flow cytometer

Optical system	Excitation optical system	<p>SFLO flow cytometer adopts all-optical fiber transmission and collection optical path. The number of channels of laser with different wavelengths is as follows: 488nm (blue) laser: 15 channels; 635nm (red) laser: 9 channels; 405nm (purple) laser: 15 channels; 561nm (yellow-green) laser: 10 channels; 355nm (UV) laser: 15 channels. The instrument is available in four configurations:</p> <p>488nm and 635nm solid-state lasers, one forward scatter detector and one side scatter detector, and 24 fluorescence detection channels, with wavelength range: 500-835nm</p> <p>488nm, 635nm and 405nm solid-state lasers, one forward scatter detector and one side scatter detector, and 39 fluorescence detection channels, with wavelength range: 418-840nm</p> <p>488nm, 635nm, 405nm and 561nm solid-state lasers, one forward scatter detector and one side scatter detector, and 51 fluorescence detection channels, with wavelength range: 418-840nm</p> <p>488nm, 635nm, 405nm, 561nm and 355nm solid-state lasers, one forward scatter detector and one side scatter detector, and 66 fluorescence detection channels, with wavelength range: 375-840nm</p>																				
	Laser parameters	<p>Spatially separated laser (spot size: 10μm x 80μm); provided with TEC automatic temperature control device (25\pm0.1$^{\circ}$C), having the laser temperature control function, capable of automatically monitoring and adjusting the laser power, with the power stability \leq1%. Can ensure that instrument stability and detection result reliability are not affected by ambient temperature.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Laser</th> <th style="width: 35%;">Wavelength</th> <th style="width: 35%;">Power</th> </tr> </thead> <tbody> <tr> <td>Blue</td> <td>488nm</td> <td>50mW</td> </tr> <tr> <td>Red</td> <td>635nm</td> <td>80mW</td> </tr> <tr> <td>Purple</td> <td>405nm</td> <td>80mW</td> </tr> <tr> <td>Yellow green</td> <td>561nm</td> <td>100mW</td> </tr> <tr> <td>Near ultraviolet</td> <td>355nm</td> <td>80mW</td> </tr> </tbody> </table>			Laser	Wavelength	Power	Blue	488nm	50mW	Red	635nm	80mW	Purple	405nm	80mW	Yellow green	561nm	100mW	Near ultraviolet	355nm	80mW
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Flow cell	<p>Fixed integrated optical system and optical-gel coupled quartz flow cell, size: inner diameter 250μm x 250μm, numerical aperture > 1.3NA</p>																					
Forward scatter (FSC)	<p>Adopting a silicon photodiode with built-in 488/10nm band-pass filter</p>																					
Fluorescence and side scatter (SSC)	<p>The fluorescence and side scatter are transmitted to the full-spectrum detector array through the fiber to achieve full-spectrum fluorescence acquisition, and the user does not need to change the filter to achieve high performance, efficient and low noise signal detection. The collection of the emitted light is completed by a separate full-spectrum module corresponding to each laser.</p> <p>Side scatter resolution: 200nm, capable of detecting the subcellular structure; Wide sample injection adaptability, with different particle adaptability from 200nm to 200μm depending on configuration</p>																					
Fluorescence	<p>FITC\leq30 molecules of equivalent soluble fluorochrome (MESF);</p>																					

	sensitivity	PE\leq10 molecules of equivalent soluble fluorochrome (MESF)
	Fluorescence resolution	CV \leq 3%
	Carryover rate	<0.05%
Electronics	Detection speed	Detection speed \leq 40,000 events/second The detection window extension parameters can be modified by software to control the discard rate during high event rate signal processing
	Signal processing	Fully digital system with dynamic range of 7 orders of magnitude
Fluidics system	Sample injection method	Stable sheath flow focusing principle adopted: patented high stability injection pump for positive pressure sample injection, sheath fluid buffer to completely eliminate sheath fluid pulsation, and improve focusing stability, low maintenance requirements, users can change the sheath fluid filter and sampling pipeline by themselves Single tube injection, with the automatic injection system optional: Single tube injection pattern: 5mL (12 x 75mm) polystyrene and polypropylene flow tube; Orifice injection pattern: 96-hole standard flat bottom, U/V bottom plate and deep hole plate
	Flow cell	Fixed integrated optical system and quartz flow cell design
	Sample flow rate	Fixed flow rate: 10 μ L/min, 30 μ L/min and 60 μ L/min; Custom flow rate adjustment range: 10 μ L-240 μ L/min in increments of 1 μ L
	Fluidics sensor	To ensure constant pressure, when the sheath fluid level is too low or the waste fluid tank overflows, the fluidics monitoring system has an alarm function
	Automatic maintenance function	System startup self-test, reverse flushing, debubble from flow cell, daily start-up/shutdown cleaning, deep cleaning
	Sheath fluid tank/Waste fluid tank	The sheath fluid tank and waste fluid tank can be resistant to high temperature sterilization to ensure bio-safety; Standard 5L sheath fluid tank and waste fluid tank
Data management	Software	Equipped with data acquisition and analysis software, which supports real-time analysis data acquisition and demixing, regular flow result gating analysis, FCS file export, and offline analysis on CytoBANK, FCSExpress, and FlowJo platforms.
	Standard calibration	Daily quality control microspheres or other reference substances relevant to the field of application can be used as standard samples to set target values and automatically calibrate gain parameter values.
	Language	All English interface, more intuitive and convenient operation
	Computer workstation	Graphic workstation shall not be less than the following configuration: CPU quad-core 3.2GHz, hard disk 1T or more, memory 16GB or more, and one monitor Output device: one printer Operating system: windows 10 Pro 64-bit; Flow acquisition and analysis workstation, file format FCS 3.0 and above
	Calibration	With standard spectrum library function, no compensation required, auto-fluorescence can be deducted



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