

CyTOF XT

Introduction

The newest in high parameter cytometers, CyTOF® XT brings automation of high-parameter cytometry to laboratories.

The integrated carousel automates acquisition of both pelleted and suspension samples. CyTOF XT™ is capable of acquiring multiples samples and has built-in pressure monitoring to sense clogs and attempt to resolve them.

CyTOF XT builds on the breadth, depth and, flexibility of mass cytometers to simultaneously measure both phenotypic and functional markers. The instrument analyzes individual cells labeled with antibodies tagged with stable metal isotopes. CyTOF XT can simultaneously resolve multiple elemental probes at high acquisition rates, thereby maximizing the per-cell information obtained from a single sample.

The novel design of CyTOF XT and the unique benefits of mass cytometry provide the capabilities you need to ignite insight and accelerate your translational, clinical, and discovery research.

CyTOF XT Specifications

Instrument Specifications

Description	Specification (instrument)
Channels	135
Mass range	75–209 amu
Abundance sensitivity	<0.3% for M+1 with M = ¹⁵⁹ Tb <0.3% for M–1 with M = ¹⁷⁵ Lu
Instrument response	500 ¹⁵⁹ Tb dual counts/EQ™ Six Element Calibration Beads
Dynamic range	4.5 orders of magnitude
Calibration	Automated
Operating system	Windows® 10 Enterprise LTSC
Sample introduction	Dual syringe drive
Sustained throughput	500 events per second
Flow rate	30 µL/min
Carryover	<1%
Sample format	12 x 5 mL tube positions 1 x 15 mL tube positions
Maximum sample volume	4 mL in 5 mL tubes 12 mL in 15 mL tubes

Reagent reservoir	Maxpar® Cell Acquisition Solution Plus for CyTOF® XT 1L Maxpar Water 500 mL Maxpar Washing Solution for CyTOF XT™ 500 mL
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Workstation Specifications

Description	Specification (workstation)
CPU	Intel® Core™ i7-9700K @ 3.6 GHz
RAM	32 GB DDR4
Data storage	3.6 TB (2x 2 TB RAID0)
Power supply	300 W
Monitor	86 cm (34 in) LED
Keyboard/mouse	Wired

Data File Size Specifications

File Type	Size (up to)
.fcs	4 bytes/channel/event
.lmd	Compressed format. 5-20 GB/hr (typical)
_SPR.fcs	3.82 MB/hr
_Beads.fcs	0.91 MB/hr (typical)
_BG.fcs	0.48 MB/hr
_Processed.fcs	4 bytes/channel/event

CyTOF XT Site Requirement Specifications

Dimensions	Width (cm/in)	Height (cm/in)	Depth (cm/in)	Weight (kg/lb)
CyTOF® XT instrument	93/37	135/53	75/30	288/635
Electrical*	Maximum Power Draw (VA)	Operating Voltage (V AC)	Operating Frequency (Hz)	Maximum Continuous Current (A)
CyTOF XT™ instrument	4,000	200–240	50/60	20
Environmental	Operating Temperature† (°C)		Humidity (%)	
CyTOF XT instrument	18–25		20–80 non-condensing	
Gas	Ultrahigh Purity Argon (≥99.996% purity)		Flow Rate (L/min)	
CyTOF XT instrument	85 ±5 psi (100 psi max.)		15	
Exhaust	Hose Diameter. mm (in)		Flow Rate cfm(L/sec)	Anemometer m/sec (ft/min)
Torch Box	100 (4)		75 ±15 (35 ±7)	5 (917)

* One dedicated electrical branch circuit (single-phase, 30 A single-phase 200–240 V AC, 50/60 Hz) is used to provide power to the CyTOF XT instrument.

† For optimal performance the temperature should be 20 ±2 °C.

For technical support visit techsupport.fluidigm.com.

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