



Miltenyi Biotec

MACSQuant® Dx

Instrument specifications

The CE-marked IVD MACSQuant Dx is engineered to suit the increasing needs of modern laboratories in regulated environments. With 16 detection channels this instrument facilitates the setup of multiparameter analyses in advanced flow cytometry. The software's Express Modes with their pre-defined experiment settings, acquisition, and analysis parameters enable reproducible data analysis and simple workflows.

The MACSQuant Dx is designed, manufactured, and tested under a quality system certified to ISO 13485 and perfectly supports GMP-compliant procedures such as in-process control and quality control (IPC/QC) during cell manufacturing. In combination with compatible assays, the MACSQuant Dx can aid healthcare providers with diagnostic procedures.

► miltenyibiotec.com/clinical-flow-cytometry



Optics	
Laser excitation	Spatially separated: 405 nm, 65 mW diode 488 nm, 50 mW DPSS (diode pumped solid state) 640 nm, 72 mW diode
Emission detectors	FSC 488/10 nm
	SSC 405/10 nm
	V1 450/50 nm
	V2 525/50 nm
	V3 579/34 nm
	V4 615/20 nm
	V5 667/30 nm
	B1 525/50 nm
	B2 579/34 nm
	B3 615/20 nm
	B4 667/30 nm
	B5 725/40 nm
	B6 785/62 nm
	R1 667/30 nm
	R2 725/40 nm
	R3 785/62 nm
Scatter resolution	Scatter performance is optimized for resolving human peripheral blood lymphocytes, monocytes, and granulocytes.
Flow cell dimensions	200 × 250 µm
Fluorescence detectors	Optimized with spectrally matched PMTs for all channels
Optical alignment	Fixed tree-like configuration, no user adjustments needed
Laser spot size	15 × 45 µm

Performance		
Absolute counts performance	Accuracy ¹ Repeatability ²	R ² ≥0.98 CV ≤10%
Sample carryover ³	<0.1%	

Fluidics	
Minimum sample volume	10 µL
Minimum sample particle size	1 µm
Sample flow rate	25–100 µL/min plus automated flow rate to maintain 500, 1,000, or 2,000 events/second
Sheath fluid consumption	<10 mL/min
Maximum event rate	Up to 15,000 events/second

¹ CD45⁺ leukocyte count correlation, 100 µL whole blood (lysed and stained according to the Immune Cell Composition Kit) compared to a measurement of whole blood on a Sysmex XN1000 according to the respective user manual.

² 25 µL uptake volume (10⁷ leukocytes/mL) in standard mode.

³ Ratio of counts from a blank sample (buffer) and a leukocyte sample (10⁷ cells/mL), measured in standard mode with an uptake volume of 100 µL.



Miltenyi Biotec B.V. & Co. KG | Friedrich-Ebert-Straße 68 | 51429 Bergisch Gladbach | Germany | Phone +49 2204 8306-0 | Fax +49 2204 85197
macsde@miltenyi.com | www.miltenyibiotec.com

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