

FlowCam® 8000

Algae Research and Industrial Production



FlowCam® is an imaging particle analysis system that uses microscopy and flow cytometry to count and classify algae. The FlowCam images a moving stream, rapidly processing large sample volumes and enabling detection of sparse populations. The following are features of the FlowCam 8000 series:

- Analyze 1 mL sample in ~5 minutes
- Integrated auto-focus mechanism provides consistent, high-resolution images
- Visual Spreadsheet® software generates 40+ morphological measurements, supporting semi-automated identification of rotifers and microalgae.



FlowCam Applications in Algae Industrial Production and Research

- Biofuel
- Wastewater Treatment
- Aquaculture/Hatcheries
- Pharmaceuticals
- Nutraceuticals
- Fish Meal
- Fertilizers
- Food Additives

FlowCam Functions

- Monitor contamination levels
- Analyze lipids using stains and fluorescence
- Capture and quantify morphological data for R&D
- Calculate cell size and biovolume
- Determine concentration
- Perform life cycle analysis
- Classify algae according to user-defined parameters (e.g. taxa and size)
- Perform live/dead population analysis



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Particle Size Range	3 μm to 600 μm
Magnification & Flow Cells	20X (~200X magnification), flow cell depth option: 50 μm Field-of-View (FOV) 10X (~100X magnification), flow cell depth option: 100 μm FOV 4X (~40X magnification), flow cell depth options: 300 μm and 600 μm FOV
Sample Processing Capability	0.05 mL/minute at 20X and up to 3 mL/minute at 4X
Measured Parameters	<p>Basic Shape Parameters: Area, Aspect Ratio (width/length), Area Based Diameter (ABD), Equivalent Spherical Diameter (ESD), Length, Volume (ABD-based), Volume (ESD-based), Width, 5 Biovolume Measurements</p> <p>Advanced Morphology Parameters: Area (Filled), Circle Fit, Circularity, Circularity (Hu), Compactness, Convex Perimeter, Convexity, Elongation, Fiber Curl, Fiber Straightness, Geodesic Aspect Ratio, Geodesic Length, Geodesic Thickness, Perimeter, Roughness, Symmetry</p> <p>Fluorescence Detection & Measurements: Channel 1 Area, Channel 1 Peak, Channel 1 Width, Channel 1 Area, Channel 1 Peak, Channel 1 Width, Channel 2/Channel 1 Ratio</p> <p>Gray Scale and Color Measurements: Average Blue, Average Green, Average Red, Edge Gradient, Intensity, Blue/Green Ratio, Red/Blue Ratio, Red/Green Ratio, Edge Gradient, Intensity, Sigma Intensity, Sum Intensity, Transparency</p>
Camera	High resolution (1920x1200 pixels) CMOS. Monochrome and color available.
Frame Rate	Shutters up to 120 frames per second.
Fluidics	Micro syringe pump with multiple sizes to optimize flow rates: 0.5 mL, 1 mL, 5 mL
Data Acquisition Method	FlowCam 8400 - fluorescence based laser triggering and auto imaging FlowCam 8100 - auto imaging
Fluorescence Emission & Detection	Excitation Options (488 nm, 532 nm, 633 nm) with 2-Channel Fluorescence Detection: <ul style="list-style-type: none"> - 488 nm laser- Ch 1: 650nm long pass / Ch 2: 525nm \pm 15nm (FITC) - 532 nm laser- Ch 1: 650 long pass / Ch 2: 575nm \pm 15nm (Phycoerythrin) - 633 nm laser- Ch 1: 700nm \pm 10nm (Chlorophyll) / Ch 2: 650nm \pm 10nm (Phycocyanin)
VisualSpreadsheet® Software	Interactive, image-based analytical software that generates 40+ particle measurements per cell. Filter, sort, and classify data based on user-defined criteria. Create libraries to automate classification for future sample analyses.

Request a Free Sample Analysis

Send us your sample and we will provide:

- A web-based interactive presentation of the results.
- Histograms and scattergrams showing the size and distribution of particles.
- A Microsoft Excel spreadsheet with all the measurement data, including count, length, width, and ESD.
- Digital images of the cells and particles in your sample.

Call +7-905-139-34-34 or visit our website for information on how to submit a sample.

