

# Flow Imaging Microscopy for Education and Academic Research

## OVERVIEW

Since its introduction in 1999, the FlowCam® has become a valued instrument for microbial ecology research, providing aquatic researchers a rapid method for analyzing plankton populations. More than 400 FlowCams are used in 50+ countries to identify, count, and measure phytoplankton, zooplankton, and other microscopic particles. The new FlowCam 5000, an affordable and streamlined flow imaging microscope, was designed to make semi-automated plankton analysis accessible to educational settings.

- Our most affordable instrument
- Calculate cell count, concentration, and biovolume for all organisms
- Measure and count particles sized 3  $\mu\text{m}$  to 1 mm
- Includes VisualSpreadsheet software which measures 40+ morphological parameters including color metrics, shape, and size used to semi-automatically classify taxa



## APPLICATIONS

Identify and enumerate  
phytoplankton and micro  
zooplankton

+

Monitor marine and fresh water  
Harmful Algal Blooms (HABs)

+

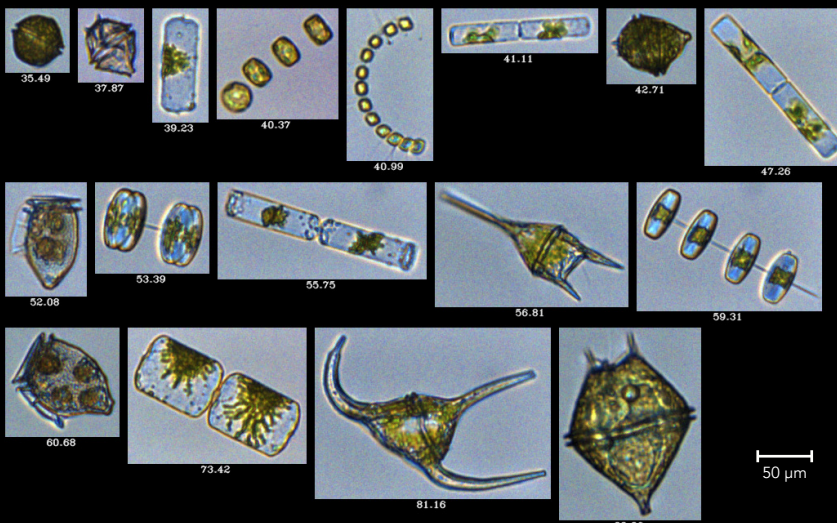
Analyze sediment: tephra particles,  
marine foraminifera, paleolimnology

+

Monitor contamination in algae  
cultures

+

Track biovolume, concentration, cell  
size distribution



GULF OF MAINE PHYTOPLANKTON AT 10X

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# FlowCam® 5000

## FOR EDUCATION AND ACADEMIC RESEARCH

FlowCam 5000	
Dimensions	17.3" wide x 10.0" deep x 10.5" tall
Particle Size Range	3 µm to 1 mm (actual size range determined by magnification selected)
Magnification & Flow Cells	Choose one configuration per instrument: 20X (~200X magnification), flow cell depth option: 50 µm extruded, and 100 µm extruded 10X (~100X magnification), flow cell depth option: 100 µm extruded 4X (~40X magnification), flow cell depth option: 300 µm extruded, and 600 µm extruded 2X (~20X magnification), flow cell depth option: 600 µm, and 1000 µm extruded
Focus System	Manual Focus
Sample Processing Capability	0.05 mL/minute at 20X and up to 50 mL/minute at 2X
Measured Parameters	Basic Shape Parameters: Area, Aspect Ratio (width/length), Area Based Diameter (ABD), Equivalent Spherical Diameter (ESD), Length, Volume (ABD-based), Volume (ESD-based), Width, 3 Biovolume Measurements  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  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
Camera	High resolution (1920x1200 pixels) CMOS. Monochrome and color available
Frame Rate	Shutters up to 60 frames per second
Fluidics	Micro syringe pump with multiple sizes to optimize flow rates: 0.5 mL, 1 mL, 5 mL, 12.5 mL
Data Acquisition Method	Auto Imaging
Fluorescence Emission & Detection	Available only in FlowCam 8400 and FlowCam Cyano
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 analysis. Multi-user licenses available.

## REQUEST A FREE SAMPLE ANALYSIS

Send us your sample and we will provide:

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

