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 µm 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 microzooplankton

+ 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
**FlowCam 5000**

FOR EDUCATION AND ACADEMIC RESEARCH

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<table>
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<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>17.3” wide x 10.0” deep x 10.5” tall</td>
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<tr>
<td><strong>Particle Size Range</strong></td>
<td>3 µm to 1 mm (actual size range determined by magnification selected)</td>
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<tr>
<td><strong>Magnification &amp; Flow Cells</strong></td>
<td>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 extruded, and 1000 µm extruded</td>
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<tr>
<td><strong>Focus System</strong></td>
<td>Manual Focus</td>
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<td><strong>Sample Processing Capability</strong></td>
<td>0.05 mL/minute at 20X and up to 50 mL/minute at 2X</td>
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**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

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