Identify & Classify Aquatic Organisms

OVERVIEW

Since its introduction in 1999, the FlowCam® has become a valued instrument for analyzing marine and freshwater samples. More than 400 FlowCams are used in 50+ countries to identify, count, and measure phytoplankton, zooplankton, and other particulate. Incorporating guidance from our customers and engineers, Fluid Imaging Technologies developed the 4th generation model, the FlowCam 8000.

- Analyze particles sized 2 µm to 1 mm
- Identify, count, and measure phytoplankton and zooplankton
- Process a 1 mL sample in 6 minutes
- VisualSpreadsheet® software performs image analysis by measuring 40+ morphological parameters including biovolume, coloration, shape, and size to classify taxa

2018 Product Launches:
- Freshwater algae libraries included on FlowCam to support identification
- Database driven software enables time series and trend analysis among multiple data sets

APPLICATIONS

Identify and enumerate phytoplankton and micro zooplankton

+ Monitor cyanobacteria and nuisance algae, such as taste and odor algae in source water

+ Characterize particles with fluorescing probes: lipid analysis, FISH probes, cell viability

+ Analyze sediment: tephra particles, marine foraminifera, paleolimnology

+ Monitor contamination in cultures and track biovolume, concentration, cell size distribution

LIVE SAMPLE FROM THE GULF OF MAINE, IMAGED AT 10X

[Image of FlowCam 8000 and aquatic organisms]

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### FlowCam® 8000

**Identify & Classify Aquatic Organisms**

<table>
<thead>
<tr>
<th><strong>FlowCam 8000</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Particle Size Range</strong></td>
</tr>
<tr>
<td><strong>Magnification &amp; FlowCells</strong></td>
</tr>
<tr>
<td><strong>Sample Processing Capability</strong></td>
</tr>
</tbody>
</table>

**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
- 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
- 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**
- Shutter up to 120 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**
- 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:
  - 488 nm laser - Ch 1: 650 nm long pass (Chlorophyll) / Ch 2: 525 nm ± 15 nm (FITC)
  - 532 nm laser - Ch 1: 650 nm long pass (Chlorophyll) / Ch 2: 575 nm ± 15 nm (Phycoerythrine)
  - 633 nm laser- Ch 1: 700 nm ± 10 nm (Chlorophyll) / Ch 2: 650 nm ± 10 nm (Phycocyanin)

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### 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
- Identification and classification of plankton species/genus

[Image of plankton images with label: Property Images (Chl/Chl Ratio)]

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