FlowCam® 8000 IMAGING PARTICLE ANALYSIS SYSTEM

Algae Cultivation & Industrial Production

OVERVIEW

More than 500 FlowCams® are used in 50+ countries to identify and count algae and other microscopic particles. The FlowCam images a liquid sample using a method that is automated and scalable compared to manual microscopy.

- Capture images of algal cells along with 40+ morphological measurements

- Analyze a 1 mL sample in 6 minutes

- Retain a record of results in Excel along with digital images of cells

- Track yield, cell size distribution, and contamination

- VisualSpreadsheet® software performs image analysis by measuring 40+ morphological parameters including biovolume, coloration, shape, and size to classify taxa

APPLICATIONS

Monitor culture health and yield by measuring cell size distribution and concentration

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Automate cell biovolume calculation

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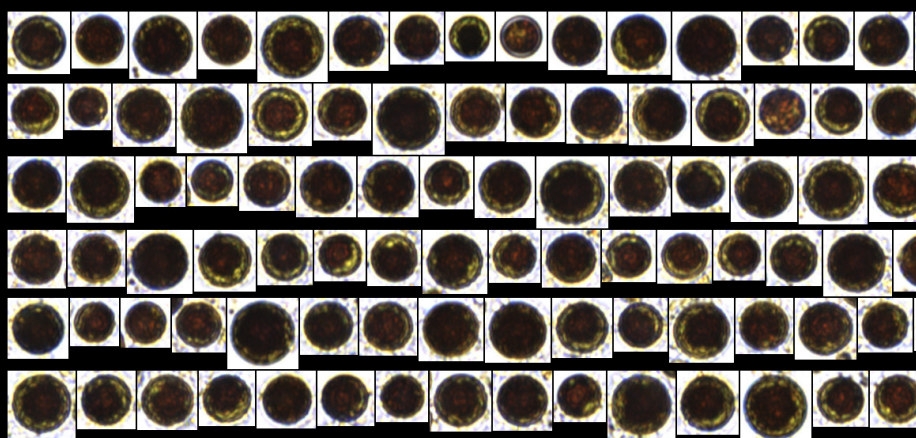Characterize astaxanthin concentration with color metrics

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Analyze lipids using Nile Red or Bodipy stain and fluorescence excitation

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Track contamination of rotifers and biological invaders with image recognition

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Perform live/dead population analysis

HAEMATOCOCCUS PLUVIALIS IMAGED AT 10X

25 µm

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Algae Research & Industrial Production

FlowCam 8000	
Particle Size Range	2 µm to 1 mm
Magnification & Flow Cells	20X (~200X magnification), flow cell depth: 50 µm Field-of-View (FOV) 10X (~100X magnification), flow cell depth option: 80 µm and 100 µm FOV 4X (~40X magnification), flow cell depth option: 300 µm and 600 µm FOV 2X (~20X magnification), flow cell depth: 1 mm FOV
Sample Processing Capability	0.05 mL/minute at 20X and up to 5 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 Fluorescence Detection & Measurements: Channel 1 Area, Channel 1 Peak, Channel 1 Width, Channel 2 Area, Channel 2 Peak, Channel 2 Width, Channel 2/Channel 1 Ratio Gray Scale and Color Measurements: Average Blue, Average Green, Average Red, 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 100 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 ± 30 nm (Phycoerythrine) - 633 nm laser- Ch 1: 700 nm ± 10 nm (Chlorophyll) / Ch 2: 650 nm ± 10 nm (Phycocyanin)
VisualSpreadsheet ®	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.

Will FlowCam solve your particle analysis needs?

Contact us for more information or to arrange for a demo or sample analysis.

BRACHIONUS RUBENS IMAGED AT 10X

FlowCam®
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