FLUID IMAGING TECHNOLOGIES

Particle Analysis with Vision®

FlowCAM® PV-Series:

Economical, Portable Imaging Particle Analysis System with a Small Footprint

Developed using the same proven, patented technologies available in the FlowCAM VS-Series systems, the FlowCAM PV-Series (PV= Particle Vision) offers an economical application-specific imaging particle analysis system with a small footprint. While the VS-Series gives the ultimate flexibility and upgradability for a laboratory or R&D environment, the PV-40 and PV-100 models are purpose-built for environments where similar types of samples are run continuously, such as QC labs. Since the PV-Series does not require the flexibility and upgradability of the VS-Series, it can be packaged in a smaller, more economical form factor.

Typical PV-Series Applications:

- ◊ QC of Parenteral Drug Formulations
- ◊ Characterization of Silica Particles by Shape
- ◊ QC of Micronized Superabrasives
- ◊ Characterization of Column Packing Particles
- ◊ Wash-water Analysis

What's Under the Curve?

Most particle analyzers only show you a distribution of particle size. FlowCAM® is the imaging-based particle analysis system that gives you a picture and data on every particle measured.

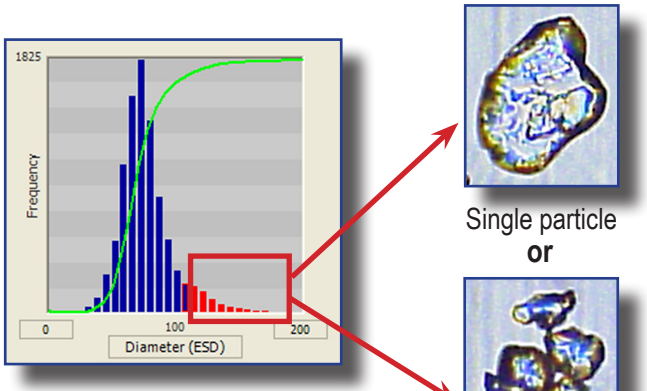
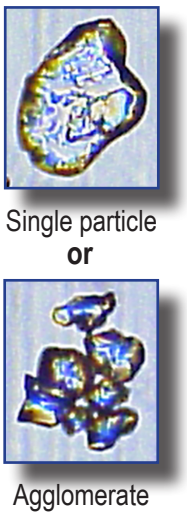
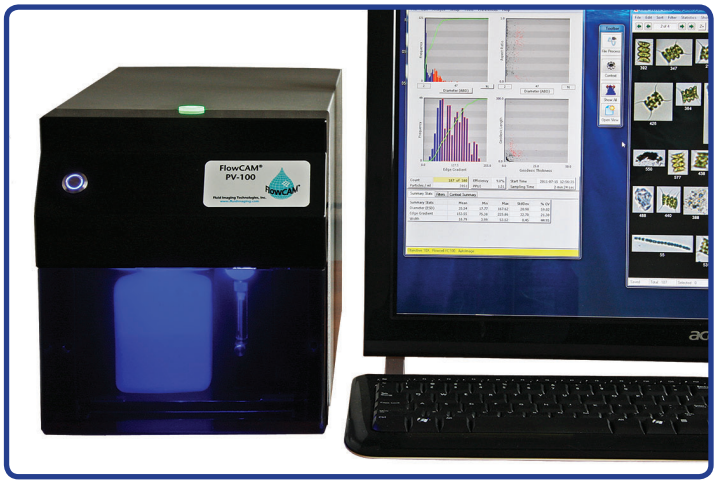


Image-based measurements make it easy to tell the difference between these two particles.



Single particle
or
Agglomerate



PV-Series Features and Benefits:

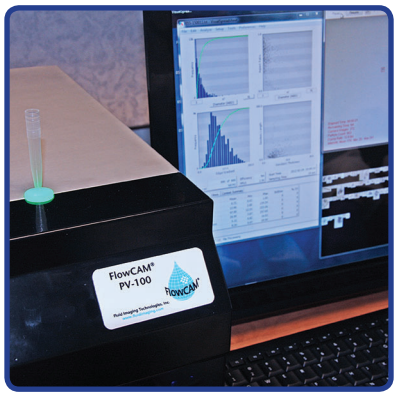
- ◊ ***Ease-of-Use***: no setup, all functions computer-controlled via software (including priming, rinsing, etc.)
- ◊ Fast, effortless acquisition of thousands of particle images and their measurements in seconds
- ◊ Up to 32 different measurements captured with each particle image for morphological and gray-scale attributes
- ◊ Intuitive VisualSpreadsheet® software for rapid filtering, classification and enumeration of different particle types
- ◊ Incorporates the speed of automated particle analysis systems with the detailed information of microscopy
- ◊ Touch-Screen and/or mouse-driven user interface

The FlowCAM PV-Series shares the same powerful, intuitive VisualSpreadsheet software as the VS-Series. This includes the patented Interactive Scattergram© feature, which enables the user to interactively select any particles on a graph, and then automatically display all particle images selected. Particles can be filtered and sorted just as would be done in a spreadsheet, but with the results immediately displayed accompanied by the corresponding particle images and summary statistics.

Comprehensive automated pattern recognition enables rapid and automatic characterization of different particle types contained in a heterogeneous sample. The high throughput of the PV-Series yields results with much higher statistical significance than can be obtained using manual microscopy.

FlowCAM PV-Series Operation: As easy as 1, 2, 3 !

1.) Load Sample



2.) Acquire Data

3.) Analyze Results

Operation of the PV-Series is simple and straightforward: 1.) The sample is pipetted, then placed into the pipette tip holder. 2.) The run is initiated by touching a single button on the touch screen, which starts sample priming by the pump, and the run to be captured completely automatically under computer control. 3.) Once acquired, the data is analyzed and available for interaction on the touch screen. Particles are automatically identified and quantified by the VisualSpreadsheet software, and summary data is immediately exported for global sharing.

FlowCAM PV-Series Specifications:

Parameter	Value
Effective Magnification	PV-40 = 40X, PV-100 = 100X
Minimum Particle Size	PV-40 = 5µm, PV-100 = 2 µm
Maximum Particle Size	PV-40 = 300µm, PV-100 = 80µm
Raw Image Field Size	1280x960 Pixels
Gray-Scale/Color Resolution	8 bits/pixel (Black & White camera), 24 Bits/pixel (Color camera)
Fluidics	Micro Syringe Pump (computer controlled)
Flow Rate	PV-40 = .05ml/min to 5ml/min, PV-100 = .01ml/min to 0.2ml/min
Basic Shape Measurements	Area, Aspect Ratio (width/length), Area Based Diameter (ABD), Equivalent Spherical Diameter (ESD), Length, Volume (ABD-based), Volume (ESD-based), Width
Advanced Morphology Measurements	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, Sigma Intensity, Sum Intensity, Transparency
Electrical Requirements	100-250 VAC, 50/60Hz
Weight	20 lbs.
Dimensions	9.5”Wide x 16.5” Deep x 10.5” High
Environmental (Temperature/Humidity)	Operating: 5-40° C, Humidity 20-80% (Non Condensing Storage: -20-60° C, Humidity 20-95% (Non Condensing)

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Fluid Imaging Technologies, Inc | 200 Enterprise Drive, Scarborough, ME 04074 | (207) 289-3200 | www.fluidimaging.com