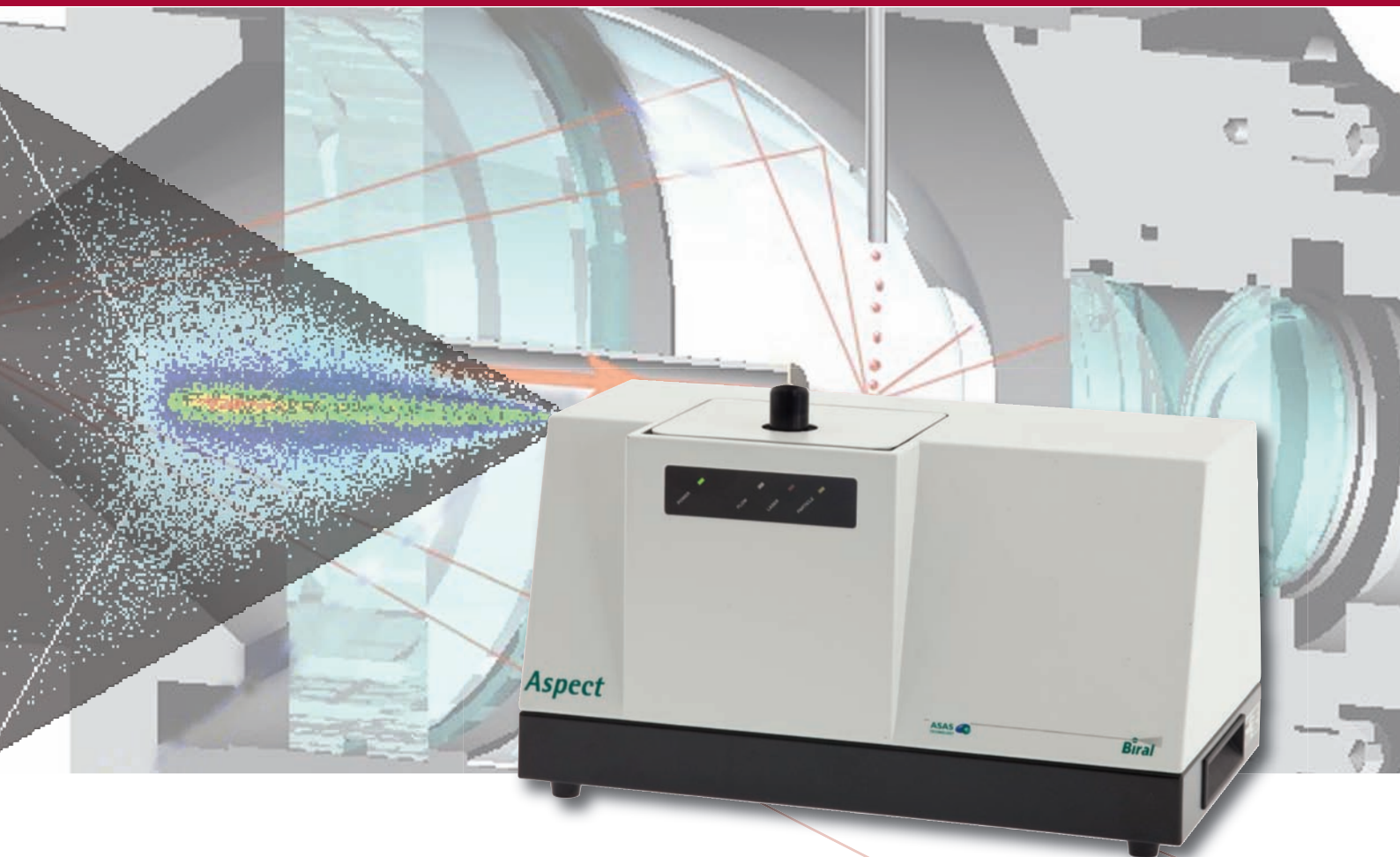


Particle Aerosol Measurement . . .

. . . size, shape, mass, number, fluorescence

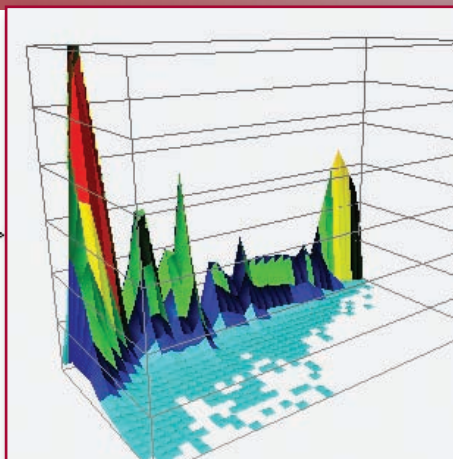
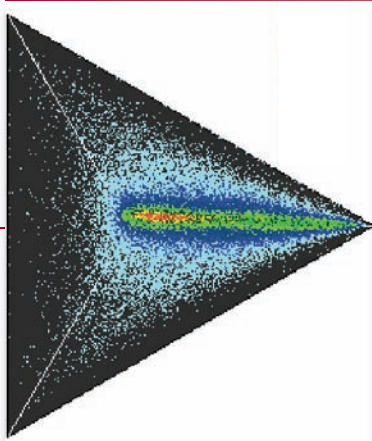


Particle Instrumentation



Unique particle classification . . .

ASPECT



- AEROSOL SCIENCE
- ENVIRONMENTAL MONITORING
- PHARMACEUTICAL AND POWDERS
- CLIMATE PHYSICS
- POLLUTION CONTROL

Particle Size Concentration + Shape

The ASPECT characterises particle Shape and Size distribution in aerosols

The **Aspect** instrument is unique. It is the only commercially available instrument that uses the pattern of scattered light to measure the shape of airborne particles in real-time, in addition to their size and the number concentration.

Using proprietary ASAS Technology in a compact, flexible mechanical design with easy to use software, the **Aspect** is a very powerful tool for a broad range of applications in research, development and process control. The **Aspect** is supplied with Windows based software that is simple to install and enables rapid analysis of data.

Changes in Shape

A key feature of the **Aspect** is its high sensitivity which enables subtle changes in aerosol population to be detected. This is particularly useful when identifying subtle differences between an aerosol or powder sample, even when particle populations have continuous size and shape distributions, **Aspect** has the sensitivity to spot very small changes in size and shape characteristics.

Ratios of Particle Types

Aspect can discriminate discrete particle classes within a mixture by characterising particle shape. As a result, separate size or shape distributions can be generated and the ratio of particle species can be calculated.

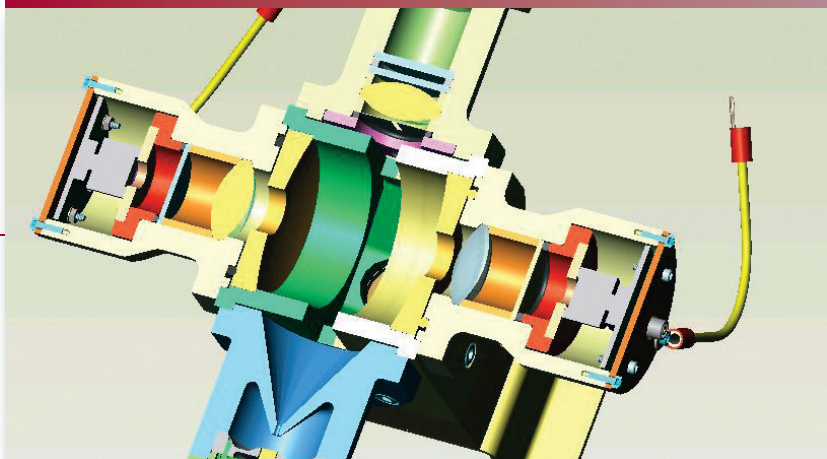


Use with the **AFS** to add fluorescence characterisation



... in real time

AFS



- HEALTH PROTECTION
- ENVIRONMENTAL MONITORING
- PHARMACEUTICAL RESEARCH
- DETECTION OF BIO-AEROSOLS
- CLIMATE RESEARCH
- AEROSOL RESEARCH

Particle Fluorescence

The AFS measures the intrinsic fluorescence of aerosols in real time

Biral's **Aerosol Fluorescence Sensor (AFS)** provides the capability to measure the intrinsic fluorescence of aerosols.

The **AFS** can be used as a stand-alone instrument or as an attachment to the Aspect aerosol size and shape analyser so providing enhanced measurement capability.

The **AFS** is supplied with Windows based software that is simple to install and enables rapid analysis of data.

No Particle Size Limit

The **AFS** continuously measures the fluorescence from a volume of aerosol in two detection channels covering the UV and visual spectral bands. Making the measurement on a volume of aerosol means that there is no limit to the particle size of the material that can be detected. The **AFS** can detect aerosols with particles much smaller than is possible with single particle fluorescence instruments.

Detect Biological Organisms

As well as being compatible with the Aspect aerosol size and shape analyser the **AFS** can be fitted with an aerosol concentrator for use when the target is dilute.

Trace Specific Particles

The **AFS** can detect the presence of specific particles, enabling it to trace aerosol pathways. This can be particularly useful in health, safety and environmental studies, pollution source apportionment and understanding the transmission of airborne infections.



Biral

ELPI



AUTOMOTIVE provides real-time mass concentration and particle counting.

COMBUSTION real-time data of mass concentration across a wide particle size range

AMBIENT outdoor and indoor air measurements

PHARMACEUTICAL controlled environment monitoring of particle count

Samplers, Diluters and Conditioners

Choose from a wide range of Dekati conditioners, samplers and diluters



*Dekati ELPI+™
(Electrical Low Pressure Impactor)*

A wide range of accessories are available for different applications.

Automotive

Dekati Mass Monitor (DMM)
Dekati Engine Exhaust Diluter (DEED)
Fine Particle Sampler (FPS)
Dekati Thermodenuder

Combustion

Dekati Diluter
Isokinetic Nozzles
Heated Probes
Dekati Cyclone

Ambient

Temperature and Humidity
Dekati Dryer

Pharmaceutical

Special Nozzles
Dekati Diluter



ELPI+™

Handheld



Particle Size Distribution

The ELPI+™ measures fine particles from 6 nm to 10 µm

The Dekati ELPI+™ (Electrical Low Pressure Impactor) uses a 14-stage impactor technology combined with particle charging and electrical detection to measure particle size distribution in a wide size and concentration range of 6 nm – 10 µm accurately and in real time.

The rapid response of the ELPI+™ along with the compact and sturdy design makes it an excellent measurement instrument for both demanding environments and research.

To complement the ELPI+™, there is a comprehensive selection of aerosol dilution and conditioning instruments available from simple cyclones to computer controlled automated dilution systems (details overleaf).



Particle Count and Mass

Handheld particle counters and dust monitors


The handheld particle counters and dust monitors from Met One Instruments are designed primarily for use in controlled environment applications. They measure mass, number, temperature and humidity measurement over a wide range of particle sizes.

Particle counters detect and measure in real time individual particles as small as 0.3 microns in diameter. Dust monitors feature particle mass concentration reporting. Particle profilers take particle counting to the next level adding full user control over the sizing bins while extending the concentration range.



Met One Instruments

Product Comparison Chart

 Biral	Biral ASPECT	Biral AFS	Dekati ELPI	Dekati Outdoor ELPI	Met One GT 321	Met One GT 521	Met One GT 526	Met One Aerocet 531	Met One 212
Particle Count	●		●	●	●	●	●	●	●
Particle Size	●		●	●	●	●	●	●	●
Particle Shape	●								
Particle Fluorescence		●							
Particle Mass			●	●				●	
Size Range	0.5 - 20 µm	no limit	7 nm - 10 µm	7 nm - 10 µm	0.3 - 5 µm	0.3 - 5 µm	0.3 - 5 µm	0.5 - 5 µm	0.3 - 10 µm
Number of Channels	N/A	N/A	12	12	1	2	6	2	8
Sample Flowrate	1 lpm	1 lpm	10 lpm or 30 lpm	10 lpm or 30 lpm	2.83 lpm	2.83 lpm	2.83 lpm	2.83 lpm	1 lpm
Data Logging / Downloading	●	●	●	●		●	●	●	●
Other Parameters				Humidity and Temperature		RH and Temperature	RH and Temperature	RH and Temperature	
Certification of Calibration	●	●	●	●	●	●	●	●	●

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