



Anton Paar

**Particle
Characterization**



NEW HORIZONS IN PARTICLE ANALYSIS

Anton Paar offers the world's broadest portfolio in particle characterization

DENSITY

SURFACE AREA

PARTICLE SIZE

PORE SIZE

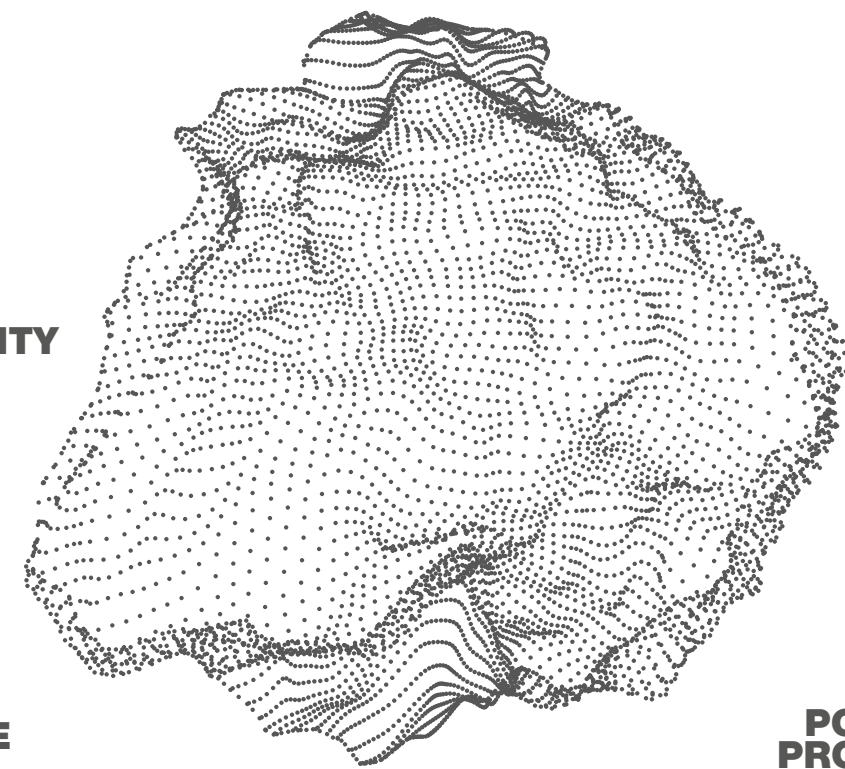
CELL POROSITY

REACTIVE AREA

PARTICLE SHAPE

POWDER FLOW PROPERTIES

ZETA POTENTIAL



Particle size analyzers ● ●

Particles can be complex, but measuring them doesn't have to be. The Litesizer™ and PSA series enable particle size measurements at just the touch of a button, and much more:

- Litesizer™ series: Dynamic light scattering for particle size analysis from the lower nanometer to micrometer range, including zeta potential, molecular mass, transmittance, and refractive index measurements
- PSA series: Laser diffraction for size analysis of liquid and dry dispersions up to the millimeter range
- Dedicated accessories allow measurements with small sample volume, in organic solutions, using automatic sample transfer, etc.
- Focus on your particles: Kalliope™ software serves both instruments and reduces operator involvement to a minimum



Powder rheology ●

Advanced true powder rheology that brings the full array of traditional rheological methods, and decades of experience, into the field of granular media:

- The amazing precision of renowned MCR Evolution rheometers, upgraded to a versatile and powerful rheometer for powder characterization
- High reproducibility through fully automated measurement modes
- Multiple measurement modes for both quality control and scientific purposes
- Exchangeable measurement systems and flexible software allow characterization from hopper design to segregation testing and state-of-art fluidized bed rheometry



Adsorption analyzers ● ● ● ●

In adsorption analysis, it is essential to combine both intelligent instrument design and advanced computational data reduction models:

- Wide range of instruments for vapor sorption, physisorption, chemisorption, and high-pressure sorption
- Fully automated systems with multi-station analysis and sample preparation options
- Perfect for analyzing pore size, surface area, and gas/solid interactions of catalysts, pharmaceuticals, battery materials, adsorbents, and all other porous materials
- World-renowned data reduction models and quick measurement reports, for traditional and complex new materials



Mercury Intrusion Porosimeter ●

The most widely used method to determine the porosity of macroporous materials:

- Designed to provide the safest operator experience, even when working with mercury
- Features such as the simplified liquid mercury introduction and automated oil purging make PoreMaster the easiest-to-use mercury intrusion porosimeter
- The ultimate in high-pressure data resolution is achieved via the control provided by the screw drive and the intelligence of the autospeed pressure generation routine
- Liquid mercury filling and low-pressure measurements as well as high-pressure measurements are typically completed within 30 minutes



Solid density analyzers ● ● ●

Get all the solid density values you need from one source – with the highest accuracy available:

- An instrument portfolio that covers measurements of true or skeletal density, tapped bulk density, and geometric density
- Best-in-class: Highest-accuracy results over the widest measurement range
- Safe and cost-effective: No liquid mercury needed to measure geometric density
- Non-destructive gas pycnometry: Works with inert and clean gas



SAXS systems ● ● ● ● ●

SAXSpace and SAXSpoint 2.0 small-angle X-ray scattering systems provide excellent resolution and the best possible data quality for nanoparticle research:

- Brilliant X-ray sources and optics for the highest spectral purity and flux
- Scatterless beam collimation and state-of-the-art hybrid photon-counting (HPC) detectors for a high signal-to-noise ratio and excellent data quality
- Wide variety of sample stages for particle characterization under controlled temperature and atmosphere
- Reliable operation with high uptimes, high sample throughput, and low maintenance costs



New horizons in particle analysis

In the world's broadest particle characterization portfolio, you will certainly find the right solution for your daily work.

Find out which instruments are suitable for you and which technologies they employ. The better you know your particles, the better you can predict your material's behavior. And the better your measuring technology is, the better you know your particles.

Have a look at all the parameters you can measure with Anton Paar particle characterization instruments.



**Anton Paar offers the world's broadest portfolio
in particle characterization:**

29 instruments to determine more than 12 different parameters.

To find out more browse through our portfolio here:

www.anton-paar.com/particle-characterization

