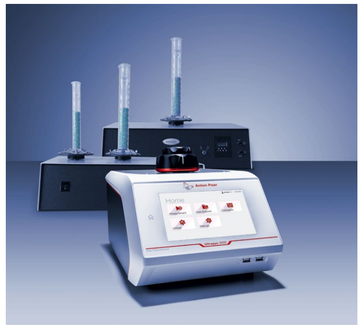
Anton Paar

Excipients

The unbeatable team for excipients characterization



Autotap | Ultrapyc | NOVAtouch series | VSTAR

Measure **surface area, solid density,** and **water sorption**

Surface area plays a major role in the purification, processing, blending, tableting, and packaging of pharmaceutical powders, ingredients, APIs, and excipients. Surface area also impacts shelf life, dissolution rate, and bioavailability and can be measured using Anton Paar gas sorption instrumentation such as AutoFlow BET+ or NOVAtouch. Water sorption measurements on VSTAR allow you to correlate water sorption uptake with important information regarding the shelf life, water sorption rates, and hydrophilicity of your compounds. The Autotap solid density analyzer supplies a definitive measure of compressibility to help you make intelligent packaging decisions. Measuring the true density with Ultrapyc 5000 provides essential data about the textural properties and gives you confidence that you are delivering compounds in the correct crystalline state.

Main features of Autotap

- Simple and easy to use, incorporating a high degree of automation
- Compliant with most internationally recognized standard methods, including USP <616>
- User-selectable, lockable number of taps provides reproducible test method parameters

Main features of Ultrapyc

- TruPyc technology for accurate results over the widest available sample range
- TruLock lid delivers unmatched repeatability
- Peltier temperature control provides stability of better than ±0.05 °C
- PowderProtect mode for safely measuring fine powders
- Conforms to USP <699>

Main features of the NOVAtouch series

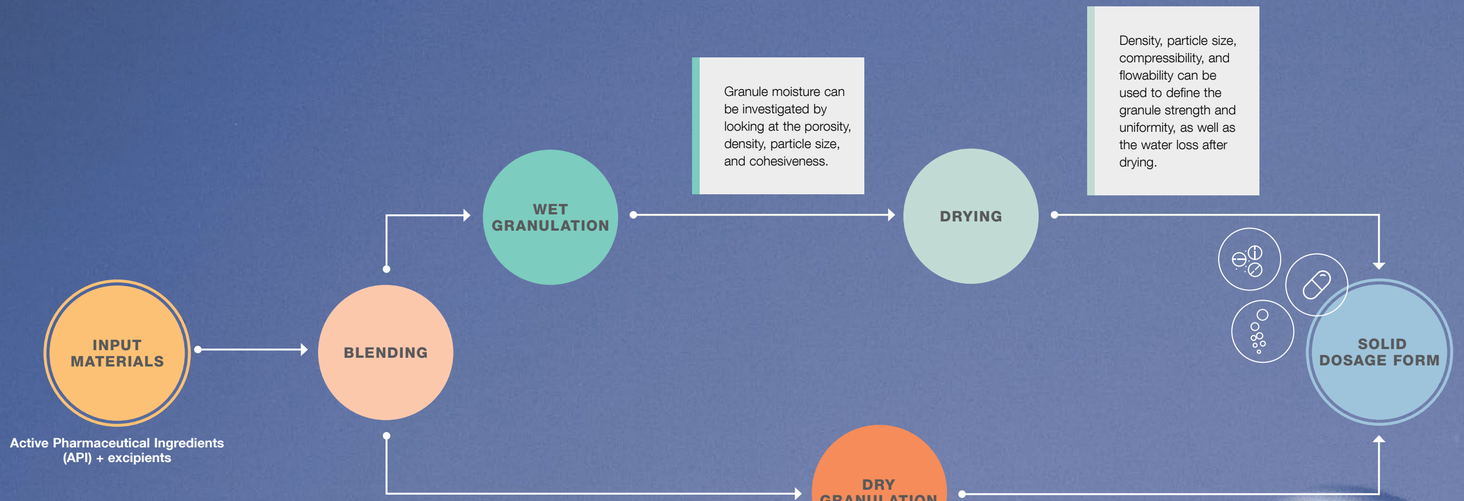
- Fully suited for surface area and mesopore analysis, conforms to USP <846>
- High-sensitivity gas sorption analyzer measures up to four samples simultaneously
- Proprietary small cold-zone technology for improved sensitivity
- Integrated touchscreen displays real-time data and simplifies user experience

Main features of VSTAR

- Dosing manifold and vapor source in a single thermostatically controlled chamber
- Superior manifold temperature control from the vapor source to the sample eliminates the possibility of local condensation of the adsorptive and ensures the highest accuracy
- Ability to analyze up to four samples simultaneously provides unprecedented throughput

By testing the powder at each step, you can be sure that the chosen excipient will improve the following attributes of solid dosage forms:

Stability | Content uniformity | Resistance to defects | Dissolution rate | Bioavailability



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MCR powder rheology

Measure **powder flow properties**

Solid dosage forms in pharmaceutics consist of a mixture of active pharmaceutical ingredients and excipients. With MCR Evolution rheometers excipients can be characterized in all phases of the production and the impact of processing parameters can be investigated. Flowability and compressibility are parameters that can be easily determined by an MCR Evolution rheometer equipped with a powder flow cell and a powder shear cell. Tests at different temperatures and humidities lead to a better understanding of the powder behavior during handling and processing. The change in flowability due to moisture uptake helps predict the suitability of the powder for granulation or direct compression. Determination of compressibility and cohesion makes it possible to improve the manufacturability and stability of tableting and capsule filling processes. In this way common manufacturing defects can be avoided.

Main features of an MCR Evolution rheometer with a powder flow cell and a powder shear cell

- Compliant with QM requirements like GMP or 21 CFR Part 11
- Easy, safe, and clean sample handling and preparation
- Precise temperature and humidity control
- Modular rheometer concept for fluidized and consolidated powders, as well as for suspensions and solids (with other MCR accessories)

PSA particle size analyzers

Measure **particle size**

PSA by Anton Paar helps reduce the costs and time required by a multiple-step process such as tableting. The behavior of excipients can be investigated directly at the production line under defined processing conditions. The particle size measurement allows you to define the impact on flowability and compressibility. Fine excipients tend to reduce the powder flow because they provide a greater surface area for surface cohesive forces to interact with, resulting in more cohesive flow. The granulation step helps increase flowability. Therefore, the compaction is improved due to the reduced stickiness of the powder to the pressing punch and higher filling capacity of the die during tableting. The right particle size results in tablets and capsules that are more resistant to handling failure and packaging problems.

Main features of the PSA series

- Multiple-laser technology for a wide range of particle sizes
- Measures excipients in dry form or dispersed in any suitable liquid – both with just one setup
- Accurate and repeatable particle size distribution
- Stability for a lifetime
- Compliant with QM requirements like GMP or 21 CFR Part 11

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www.anton-paar.com/particle-characterization