

NEW – from Meritics Ltd

Volution Powder Flow Tester

More affordable than other powder shear testers on the market

Measures cohesion, angle of internal friction, wall friction, time consolidation

Measures Powder Charge with the ION Charge Module

Tests samples at pressures up to 250 kPa (50 kg of force)

Automatically weighs sample for density and compressibility

Includes software, temperature probe, humidity probe



The Volution Solves Flowability Problems

The Volution Powder Flow Tester (VFT) measures the flow properties and bulk characteristics of powders and bulk solids. The system uses an annular shear cell to measure a powder's response to consolidating pressure using the yield locus technique. This allows the system to measure the cohesion and angle of internal friction of the material as well as its unconfined yield strength. The system also measures wall friction and compressibility. Flow functions can be measured by testing the materials at different pressures.

If you need a shear tester, the Volution Powder Flow Tester (VFT) is the one to get. The VFT offers the following advantages over other powder shear testers on the market:
Low Cost: The VFT is very affordable compared to other shear testers. The reason is that we designed the instrument ourselves. We do not pay university licensing fees or royalties because we designed it using our 20 years of experience in the powder flow business. We also did



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not use external engineering companies which further reduces our costs. These savings are passed on to users.

Large Pressure Range - Due to our heavy duty frame and drive system, the VFT can deliver up to 50 kg of vertical force. That's about 6 times more than competing instruments.

Automatic Sample Weighing: The VFT weighs the sample automatically during the measurement eliminating the need for an external balance and the time required to weight the sample.

Normal Load Correction Due To Sample Density: The VFT automatically adjusts the normal force applied to the sample lid to correct for the force from the powder mass above the shear zone. This is very important for dense powders. Other systems do not make this adjustment resulting in shear force that are artificially high.

True Time Testing: The analysis cells of the VFT can be removed and kept under load off of the instrument. This means time tests can be performed while other samples are being run on the instrument. Other shear testers have no capability to run time tests or you must leave the sample on the instrument for hours and hours so no other testing can be done.

Can Test Powders and Granular Materials : Due to the geometry of the test cell, the Volution can test both powders and granular materials. Other shear testers cannot. The reason is that the dimensions of the test cells for other instruments are too small to allow large particles to be measured. It is generally recommended that a layer of a minimum of 20 particles separate shear planes from cell edges. Some cells are not deep enough. Other cells have vanes will not allow large particles to enter or will only a thin layer.

The Volution is the latest product in Meritics range of Powder Flow Testers.

We also supply the Revolution PFT which can measure your powder's ability to flow, consolidate, granulate, cake, pack and fluidise by measuring the power, time and variances in energy of your powder in a rotating drum. The data can be used to quantify your powder's particle behaviour during process applications such as blending, tableting, mixing and transportation.

The patent pending Evolution Powder Tester is a fast and affordable way to measure a powder or granular materials response to environmental stresses such as pressure. The EPT measures a material's response to pressure by applying pressure and then measuring it's resulting strength, this strength is known as the Unconfined Yield Strength.

The unconfined yield strength can be measured at one pressure or at many pressures to create what is called a flow function. The flow function presents the material's gain in strength as more pressure is applied to it.

For most powders and granular materials, the longer the material is exposed to pressure, the higher the unconfined yield strength becomes. Therefore, for powders and granular material that are stored for any length of time, it is essential to study the effects of pressure over time. This is called time unconfined yield strength.

FOR FURTHER DETAILS PLEASE CONTACT US ON 01582 704807 OR EMAIL
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