Powder Shear Tester – with particle charge option

Volution Powder Flow Tester

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:

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 forces 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.
Optional Powder charge measurement – with glass, plastic, metal or other material as a contact surface.