Measures of Compressibilty Index and Hausner Ratio

-Because the interparticulate interactions influencing the bulking properties of a powder are also the interactions that interfere with powder flow, a comparison of the bulk and tapped densities can give a measure of the relative importance of these interactions in a given powder. Such a comparison is often used as an index of the ability of the powder to flow, for example the Compressibility Index and Hausner Ratio as described below.

The Compressibility Index and Hausner Ratio are measures of the propensity of a powder to be compressed as described above. AimSizer Tap Density Tester measures both. As such, they are measures of the powder's ability to settle, and they permit an assessment of the relative importance of interparticulate interactions. In a free-flowing powder, such interactions are less significant, and the bulk and tapped densities will be closer in value. For poorer flowing materials, there are frequently greater interparticle interactions, and a greater difference between the bulk and tapped densities will be observed. These differences are reflected in the Compressibility Index/Hausner Ratio.

Compressibility Index - Calculate by the formula:
$100(V_0-V_F)/V_0$
V_0=unsettled apparent volume
V_F=final tapped volume

Hausner Ratio=V_0/V_F

AS-100 Tap Density Tester