

BeDensi B1-S



Scott Volumeter

The BeDensi B1-S is a Scott volumeter for measuring the bulk density of metallic powders and granular materials. With its compact and durable design, the BeDensi B1-S is ideal for use in laboratories and production facilities, assessing the flowability and packing properties of powders. Scott volumeter is also recommended for bulk density testing in various pharmacopoeias, including the USP and Ph. Eur. standards.



Bulk Density Measurement



USP



Ph. Eur.



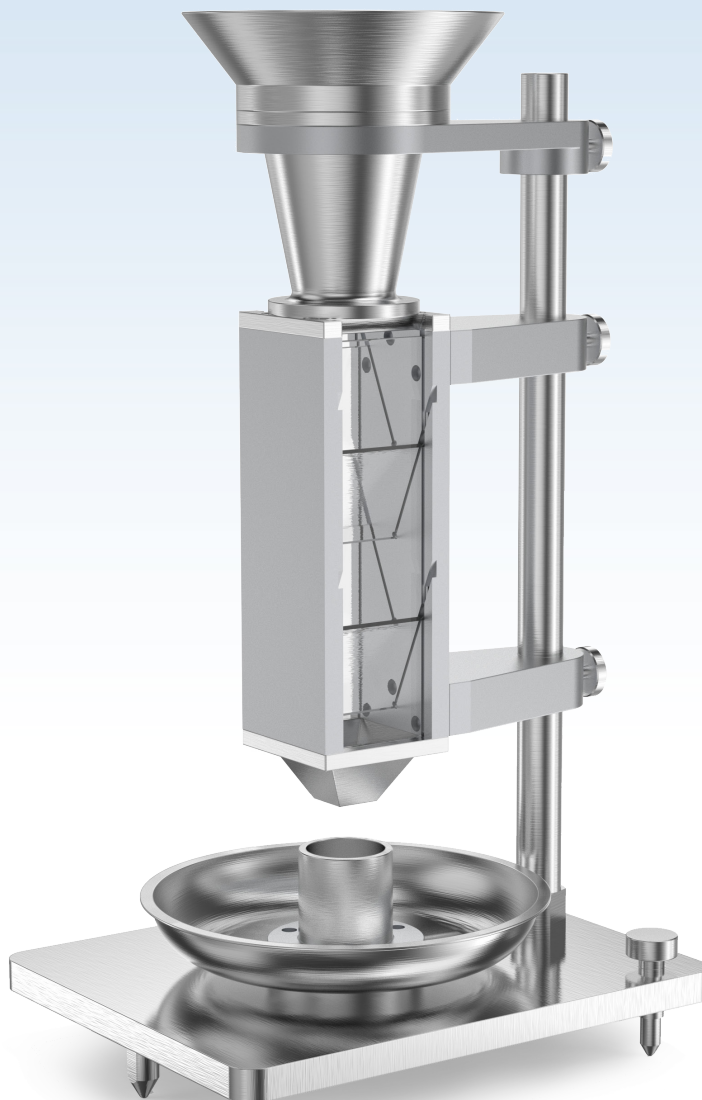
ASTM



ISO

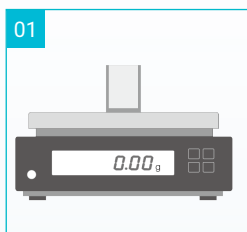
Principle

The powder is placed on the sieve of the upper assembly funnel and naturally or through external force, it flows into the collection box. It alternately passes through four inclined glass plates with an angle of 25° and a square funnel in the bottom of the collection box, and finally flows into a cylindrical cup with 25 mL, maintaining a loose state. The mass of the powder in the cylindrical cup is then weighed to determine the bulk density of the powder.

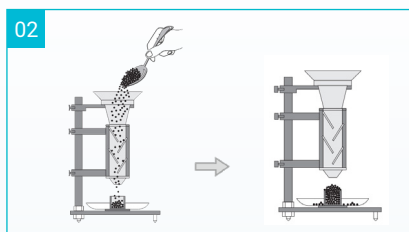


Measurement Procedure

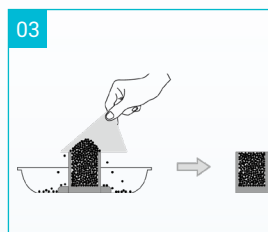
Bulk Density



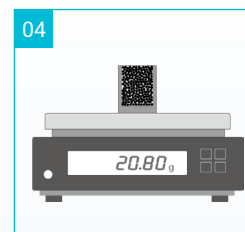
Empty cup and weigh



Add sample



Scrape



Weigh

$$\text{Bulk Density } (\rho_B) = \frac{M}{V_B} = \frac{\text{Mass (g)}}{25 \text{ cm}^3}$$

where ρ_B is the bulk density, M is mass in grams, and V_B is the bulk volume in milliliters or cubic centimeters.

Application Example

Analyzing bulk density of pharmaceutical powder by BeDensi B1-S.

Montmorillonite, a refined clay renowned for its application in alleviating intestinal pain and diarrhea, undergoes meticulous examination in adherence to the guidelines outlined in USP <616> and Ph. Eur. <2.9.34>. The three-cycle measurements of Montmorillonite samples confirm a bulk density of 0.599 g/cm³, ensuring the precision and compliance of the product.

Sample	Result (g/cm ³)			
Montmorillonite	No.1	No.2	No.3	Average
	0.592	0.604	0.600	0.599

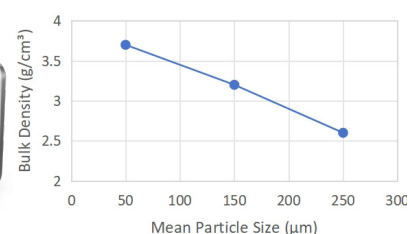
Interoperability

The synergy of the laser diffraction analyzer Bettersizer ST and the BeDensi B1-S investigates the connection between particle size and bulk density in alloy materials.

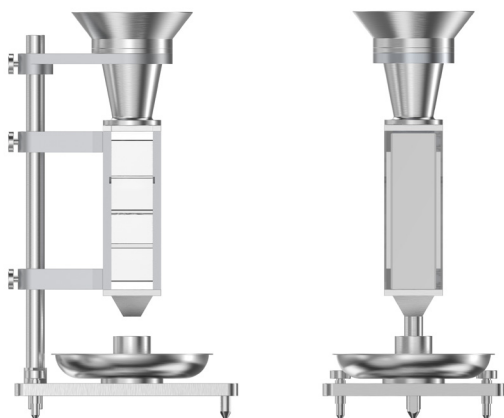
Adhering rigorously to the ASTM <B329>, the BeDensi B1-S excels in precisely measuring the bulk density of metallic powders. The collaborative operation of these two instruments ensures accurate results, providing a comprehensive understanding of the patterns governing powder characteristics.



Bettersizer ST



Specification



Parameter	BeDensi B1-S
Mesh Size of Sieve Screen	1 mm (mesh 18)
Size of Glass Plates	40*40 mm (2) 50*50 mm (2)
Inclined Angle of Glass Plates	25°
Volume of Cup	25 ± 0.05 mL
Inside diameter of Cup	30 ± 2.00 mm
Compliance (for bulk density)	● USP <616> ● Ph. Eur. <2.9.34> ● ISO <3923-2> ● ASTM <B329>

* BeDensi Series is available in the Bettersize online store.

