



JV 1000 / JV 2000

Tapped Density Tester

- Complies with USP <616> Method 2 / EP <2.9.15>
- Single or dual test stations
- Very easy operation
- Can be operated with 250 ml or 100 ml cylinder

JV 1000 / JV 2000

The JV 1000 and JV 2000 have been designed to measure the tapped density of powders, granules and similar products in accordance with USP Chapter <616> Method 2 and EP Chapter <2.9.15>. Both testers are particularly useful for conducting powder Flowability studies and also in determining the amount of settlement during transit to optimize pack sizes. Tapped density is achieved by mechanically tapping one or two measuring cylinders containing the sample under test.

SIMPLE OPERATION

Two versions of the tester with one or two test stations are available. Operating the JV 1000 and JV 2000 is easy. Simply set the number of strokes – or time – and push start.

TEST PROCEDURE

The following standard procedure is usually followed to calculate the tapped density in grams per ml:

- Weigh out a predetermined amount of the sample (e.g. 100g, +/- 0.1%) and place it in the graduated cylinder. Note the unsettled volume.
- Secure the graduated cylinder to the test platform of the tester using the bayonet fitting provided for this purpose.
- Unless otherwise specified, set the number of taps to 500 and operate the device. On completion, note the resulting tapped volume.
- Repeat this operation for a further 750 taps noting the volume once again.
- Continue repeating the test in increments of 1'250 taps until the difference in tapped volume is less than 2%.
- Note the final reading.
- Calculate the tapped density in grams per ml by dividing the sample weight by the final tapped volume.

HAUSNER RATIO AND COMPRESSIBILITY

Tapped density is required for calculating the ability of the powder to flow ("Hausner Ratio") and its compressibility ("Compressibility Index").

$$\text{Hausner Ratio} = \frac{\text{Tapped Density}}{\text{Bulk Density}}$$

$$\text{Compressibility Index} = \frac{\text{Tapped Density} - \text{Bulk Density}}{\text{Tapped Density}} \times 100$$

In a free flowing powder, inter-particulate interaction is less significant and unsettled and tapped densities will be closer in value. In poorly flowing powders, the inverse is to be expected.

It follows that the closer the Hausner ratio is to one, the better the flow. Powders with poor flow generally have a ratio of greater than 1.25.



→ JV 1000, with single test station

→ JV 2000, with two test stations

Technical Specifications

		JV 1000	JV 2000
Test stations		1	2
Measuring cylinder	Standard	250 ml	250 ml
	Optional	100 ml	100 ml
Power supply	EU-Standard	230V / 50Hz	230V / 50Hz
	US-Standard	115V / 60Hz	115V / 60Hz
	Other	230V / 60Hz	230V / 60Hz
Dimensions	Width	280 mm	280 mm
	Depth	250 mm	250 mm
	Height	670 mm	670 mm
Weight		approx. 13 kg	approx. 14 kg

Technical specifications are subject to change without prior notice. Products illustrated in this document may include options or modifications not fitted as standard. No liability for errors and omissions.