



MANUAL POWDER FLOW TESTER QMPT-01



OVERVIEW

Manual Powder Flow Tester – By Quality Lab Solutions - QMPT 01 is Specifically designed to address the specifications in and comments raised by the European Pharmacopoeia Chapter 2.9.36 and US Pharmacopoeia Chapter <1174 to measure flow properties of powders and granular materials.

Our instrument measures the way powder particles interact with each other and with process equipment under various conditions. This information allows scientists and engineers to predict how their materials will behave in their processes.

The widespread use of powders in the pharmaceutical industry has led to a proliferation of test methods for measuring powder flow. The harmonized chapters in the Pharmacopoeias on Powder Flow (USP Chapter <1174> and Ph.Eur. Chapter 2.9.36) list well-defined Angle of Repose method for powder testing aimed at trying to bring about some degree of standardization within the existing test methodology:

By measuring a powder's flow properties, its behaviour in any process or container can be compared, predicted and controlled. Flow ability problems can be solved.

- Predict flow** out of hoppers, bins and storage containers
- Prevent caking**, bridging & non-uniform flow
- Prevent Charging of Powders** for predictable and stable flow
- Compare ingredients** for the choice of suppliers and quality components
- Improve Product Formulation** for quality and consistency
- Reduce costs & increase speed** of processing, blending & tableting.

FEATURES

Manual Powder Flow Tester - By Quality Lab Solutions - QMPT 01 With Digital Height Gauge with platform for measuring Height. (as per European Pharmacopoeia).

It is with interchangeable discs with holes of various diameters

- Provides simple, repeatable flow ability index of powders and granules
- Easy calculation of angle of repose
- Provides simple, repeatable index of flow ability of powders
- Determines the repeatable flow ability index of powders over an arbitrary scale
- Included with tester are a complete set of index flow disks.

Machine is offered with various Outflow openings as per Ph. Eur:

10 mm

15 mm

25 mm

Customized openings are also available

PARTS & ACCESSORIES

Standard Accessories (In Scope of Supply)

- CONE
- PILLAR
- SLIDER KNOB
- CONE PLATFORM
- CONE PLATFORM KNOB
- SLIDER
- DISK
- POWDER COLLECTION DISK
- BASE PLATE

OPTIONAL ACCESSORIES

- NOZZEL-DIAMETER 10mm
- NOZZEL-DIAMETER 15mm
- NOZZEL-DIAMETER 25mm
- Digital Height Gauge with Calibration Certificate.



INSTRUCTION / PROCEDURE

- Put the powder from the top into the funnel
- Tap the funnel slightly so that the powder is presented without compacting itself
- After loading, we need to wait approximately 30 seconds
- With the lever release the entry and observe if the powder runs
- Start with a disc of 15 mm for unknown powders
- If the test is positive, repeat the process with smaller discs until the test is negative
- The Flow ability of the powder is determined if powder falls freely, flow ability is small and larger if it flows
- The determination of flow ability is based on the capacity of the powder to fall freely through a hole in the disc

ANGLE OF REPOSE ATTACHMENT (ASTM D6393)



The Angle of Repose is the angle (relative to the horizontal base) of the conical pile produced when a granular material is poured onto a horizontal surface. It is related to the density, surface area and coefficient of friction of the material concerned.

The Angle of Repose Attachment comprises a 100 mm diameter circular test platform together with a digital height gauge, having a range of 0-300 mm and an accuracy of 0.03 mm. The test platform has a protruding outer lip in order to retain a layer of powder upon which the cone is formed.

Surplus powder is collected in a tray below the test platform.

For this particular test, the funnel is normally equipped with a special 10 mm i.d. nozzle mounted 75 mm above the test platform. If necessary, the contents may be stirred to assist in the powder flow (see left).

The tangent of the angle of repose (in degrees) can be determined by reading off the height of the powder cone in mm from the digital display of the height gauge and dividing it by 50. The Table the flow properties associated with corresponding Angles of Repose.

FLOW PROPERTIES & ANGLE OF REPOSE

Flow Properties & Angle of Repose	
Flow Property	Angle of Repose
Excellent	25 - 30
Good	31 - 35
Fair - aid not needed	36 - 40
Passable - may hang up	41 - 45
Poor - must agitate, vibrate	56 - 55
Very poor	56 - 65
Very, very poor	> 66



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