

PF 1

Modular tester for standardized powder flow characterization using three different methods according to USP <1174> / Ph. Eur. 2.9.36.



Powder and Granulate Flowability Tester



PF1 — Three in One.

- 3 different test setups
-
- Flow through an orifice with funnel or cylinder
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- Mass per time or volume per time
-
- Angle of repose
-
- Timer and balance

Robust stand with two easily height-adjustable arms

"Flow through an orifice" type tests with cylinder or funnel

Integrated timer starts and stops automatically when opening / closing the shutter

The base readily accepts an additional platform for standardized measuring of cone height for "angle of repose" tests

Multi-purpose pivot arm for test setup with stirrer and filling funnel

Shutter to open / close the orifice

Simplified "mass per time" measuring with laboratory balance





Angle of repose.

Evaluate flow properties of solids based on the shape of the cone. By measuring the cone height on a standardized platform, the angle of repose can be easily calculated to classify the powder (e.g. according to Carr). To create a symmetrical cone, the height of the orifice through which the powder passes can be fixed or varied as the pile forms.



PF1 with funnel

Flow through an orifice.

Using the cylinder setup is ideal to determine the flow rate of "powder moving over powder". This method eliminates the effect of the container material on test results. Discs with different orifices allow for variation of the flow-through opening diameter. To simulate the flow of powder moving along the wall of a container or hopper in a production situation, a funnel in the form of a truncated cone is also available.



PF1 with cylinder

Configurations.

The PF1 can be configured to perform three different types of powder flow tests – and allows to vary test conditions in a repeatable way. When equipped with an analytical balance, the flow rate can be measured continuously to detect momentary flow rate variations.



Angle of repose



Flow through an orifice —
with funnel



Flow through an orifice —
with cylinder

PF1 Technical Specifications

Pharmacopeia		USP <1174>, EP 2.9.36
Test methods	Flow through an orifice, with funnel	●
	Flow through an orifice, with cylinder	●
	Angle of repose	●
Weight	(without packaging)	20 kg (44.1 lbs)
Dimensions	Width	267 mm (10.5 inch)
	Depth	356 mm (14 inch)
	Height	608 mm (23.9 inch)

	Flow through an orifice, with cylinder	Flow through an orifice, with funnel	Angle of repose*
Stand, with base plate	●	●	●
Multi-purpose pivot arm, height-adjustable	●	●	●
Filling funnel, for pivot arm	●	●	●
Stirrer, for pivot arm	–	○	–
Flow-through arm, height-adjustable	●	●	●
Timer	●	●	●
Funnel, incl. 3 different nozzles	–	●	○
Cylinder, incl. set of 20 discs	●	–	○
Laboratory balance	○	○	–
Glass beaker, 1'000 mL	○	○	–
Platform, incl. collection tray	–	–	●
Digital height gauge	–	–	●

*requires either cylinder or funnel

● included / required
○ optional

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

