

# PFT™ Powder Flow Tester

...affordable testing for powder characterization

The PFT Powder Flow Tester brings quick and easy analysis of powder flow behavior in industrial processing equipment. Evaluate powder discharge from storage containers. Use as QC check for incoming materials. Rapidly characterize new formulations for flowability and adjust composition to match flow behavior of established products.

#### Choice of Test Options:

- Flow Function
- Time Consolidated Test with Flow Function
- Wall Friction
- Bulk Density

#### Choice of Flow Function Tests:

- Demo (8 minutes)
- Standard (38 minutes)
- Time Consolidation (user-defined)

#### Real Time Clock Displays:

- Test Step
- Remaining Time to Completion

#### Shearing Algorithm Captures:

- Peak Stress Value
- Subsequent Stable Stress Value
- Recognizes "Slip Stick" Materials

#### Data Output:

- Flow Index for Powder Flowability
- Arching Dimension (Index)
- Rat-hole Diameter
- Hopper Half Angle
- Gravity Chute Angle (Wall Friction Angle)
- Bulk Density Curve

**Compact design** with small footprint  
Tester fits conveniently on workbench  
Depth: 15inches / 38cm  
Width: 14inches / 36cm  
Height: 27inches / 69cm



Developed in association with  
**The Wolfson Centre**  
for Bulk Solids Handling Technology  
at the University of Greenwich, England.

## What's Included?

Instrument  
Powder Flow Pro Software  
with USB Cable

## What else is needed?

Choose one or both:

- Standard Volume Accessory Kit  
230cc Trough & 33cc Vane Lid
- Small Volume Accessory Kit  
38cc Trough & 5cc Vane Lid

Each of the above include:

- Wall Friction Lid  
304 s/s simulated 2B finish
- Outer Catch Tray
- Inner Catch Tray w/ Scraper Tool
- Powder Scoop
- Cleaning Brush

## Optional Accessories

- Wall Friction Lids in Mild Steel  
22-28RA, Tivar 88 or special order
- Temperature Probe
- Humidity Sensor
- Sieve Kit Standard or Small Volume
- Carrying Case for easy transport
- Sand Castle Demonstration Kit
- Powder Flow Demonstration Kit



Small Volume Vane Lid  
.795-13.252 kPa

Standard Volume Vane Lid  
.289-4.819 kPa

ISO CERTIFIED

**BROOKFIELD**  
**AMETEK®**

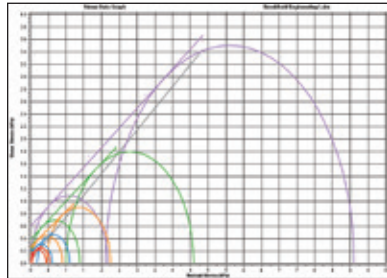
## Powder Flow Pro Software Included

Operation and control of the Powder Flow Tester is accomplished with Powder Flow Pro Software.

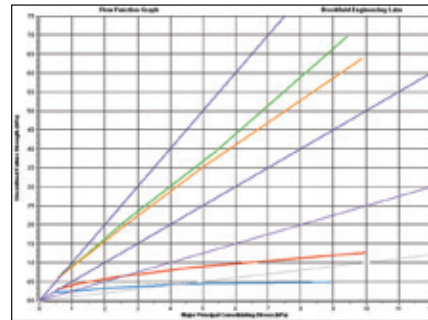


Main screen provides choice of basic tests:

- Flow Function
- Wall Friction
- Time Consolidated Flow Function
- Bulk Density



Stress data output screen captures "normal stress" and "shear stress" values and plots data in graphical format (calculates Mohr Circle Failure Loci).



Flow Function test produces graphs of powder flow behavior which show:

- Unconfined Failure Strength vs. Major Principal Consolidating Stress
- Arching Dimension vs. Principal Consolidation Stress
- Rat-hole Diameter vs. Powder Fill Level
- Arching Dimension vs. Hopper Half Angle

### PFT POWDER FLOW TESTER SPECIFICATIONS

<b>Load for Vertical Axis Compression:</b>	7 kg — Accuracy $\pm 0.6\%$ FSR
<b>Axial Speeds:</b>	0.1mm/second up to 5mm/second
<b>Distance:</b>	Accuracy $\pm 0.3\text{mm}$
<b>Torque:</b>	$\pm 7.0 \text{ N}\cdot\text{m}$ — Accuracy $\pm 1.2\%$ FSR
<b>Trough Rotational Speeds:</b>	1 revolution/hour (RPH) up to 5 RPH
<b>Temperature Sensing:</b>	$-20^{\circ}\text{C}$ to $120^{\circ}\text{C}^*$
<b>Humidity Sensing:</b>	10% to 95% RH $\pm 5\% \dagger$
<b>Dimensions (wxdxh):</b>	(cm) 36.2 x 39.7 x 67.6 (in) $14\frac{1}{4} \times 15\frac{5}{8} \times 26\frac{5}{8}$
<b>Weight:</b>	34 kg (75 lb)

\* Requires Part No. DVP-94Y

† Requires Part No. PFT-607Y

### MINIMUM COMPUTER SPECIFICATIONS FOR POWDER FLOW PRO SOFTWARE

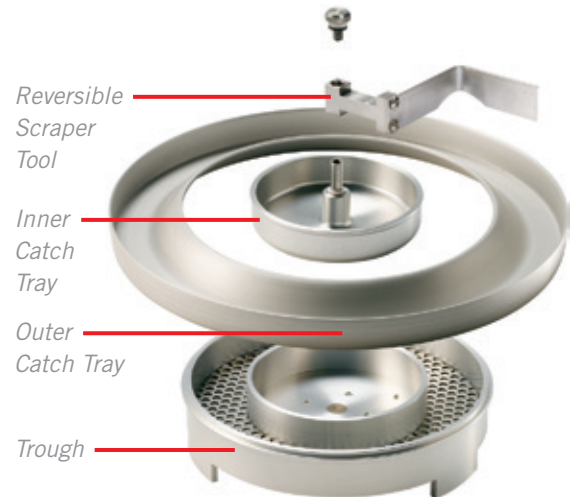
2GHz processor with 1 GB of RAM and 30 MB hard drive space available  
 1024x768 video resolution with 128 MB of graphics memory  
 Windows XP, Vista or Windows 7 (32 and 64 bit) with one USB or RS-232 port



Close-up View of Vane Lid used for Flow Function Test.



Close-up View of Wall Friction Lid for wall friction test and density test



Outer and Inner Catch Trays with Scraper Tool for Sample Preparation in Trough

