

# 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



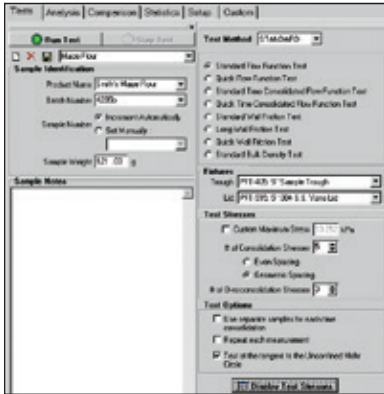
*Small Volume Vane Lid  
 .795-13.252 kPa*

*Standard Volume Vane Lid  
 .289-4.819 kPa*



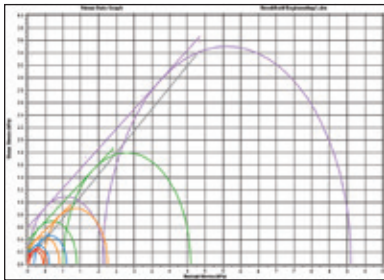
## Powder Flow Pro Software Included

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

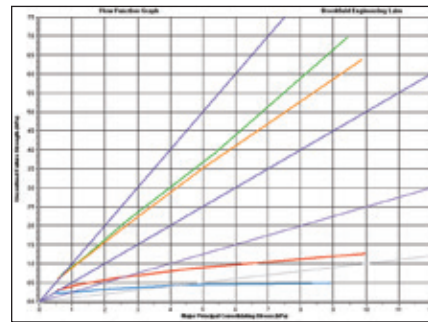


Main screen provides choice of basic tests:

- 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 Consolidating 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 ±0.6% FSR
<b>Axial Speeds:</b>	0.1mm/second up to 5mm/second
<b>Distance:</b>	Accuracy ±0.3mm
<b>Torque:</b>	±7.0 N•m — Accuracy ±1.2% FSR
<b>Trough Rotational Speeds:</b>	1 revolution/hour (RPH) up to 5 RPH
<b>Temperature Sensing:</b>	-20°C to 120°C*
<b>Humidity Sensing:</b>	10% to 95% RH ±5%†
<b>Dimensions (wxdxh):</b>	(cm) 36.2 x 39.7 x 67.6 (in) 14 <sup>1</sup> / <sub>4</sub> x 15 <sup>5</sup> / <sub>8</sub> x 26 <sup>5</sup> / <sub>8</sub>
<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

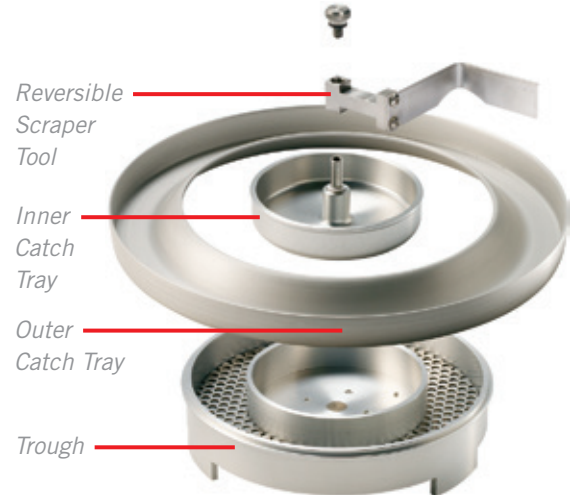
2GHz processor with 1 GB of RAM and 30 MB hard drive space available
1024x768 video resolution with 128 MB of graphics memory
Windows XP, Vista or Windows 7 (32 and 64 bit) with one USB or RS-232 port



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 Scrapper Tool for Sample Preparation in Trough

