粉體特性測試儀

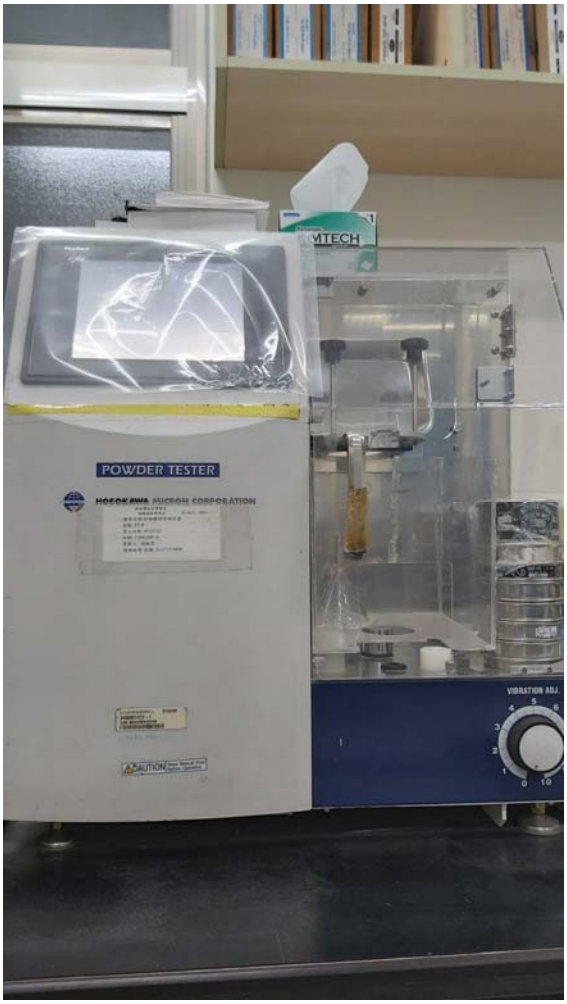
Hosokawa Micron™ Powder Characteristics Tester(PT-R)

儀器設備說明：儀器價格：1,000,000 元
儀器購置年月：2003 年 7 月
廠牌及型號：Hosokawa Micron, PT-R

重要規格： 利用震動或重力及雷射光量測粉體之安息角、滑落角、粉體壓縮度(Compressibility)。

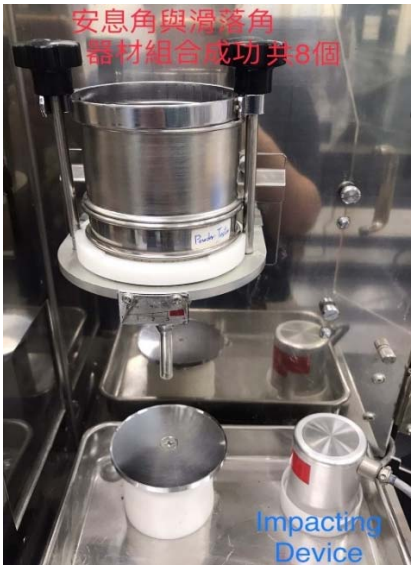
儀器性能： 利用 Hosokawa 之粉體特性測定儀(Powder Tester)，進行量測粉粒體之安息角亦稱休止角(Angle of Repose)、滑落角(Angle of Fall)亦稱(傾斜角) 、差角(Angle of difference)、壓縮度(Compressibility)、鬆密度 Da (Aerated Density)、緊密度 Dp (Packed Density) 、黏著度(Cohesion)。

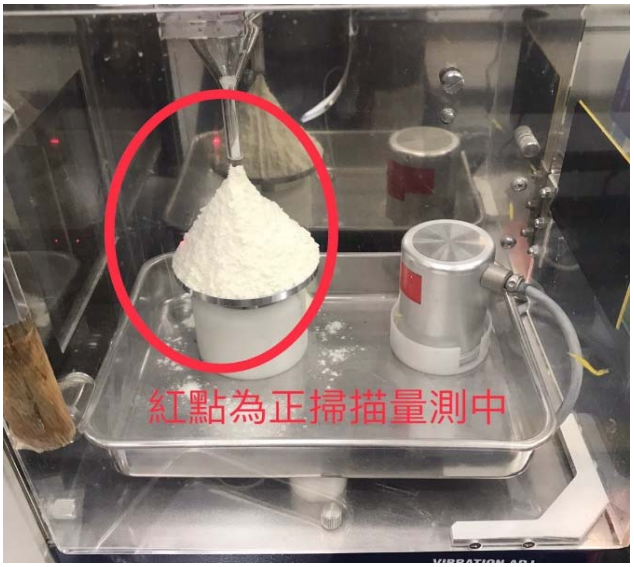
機台圖片：

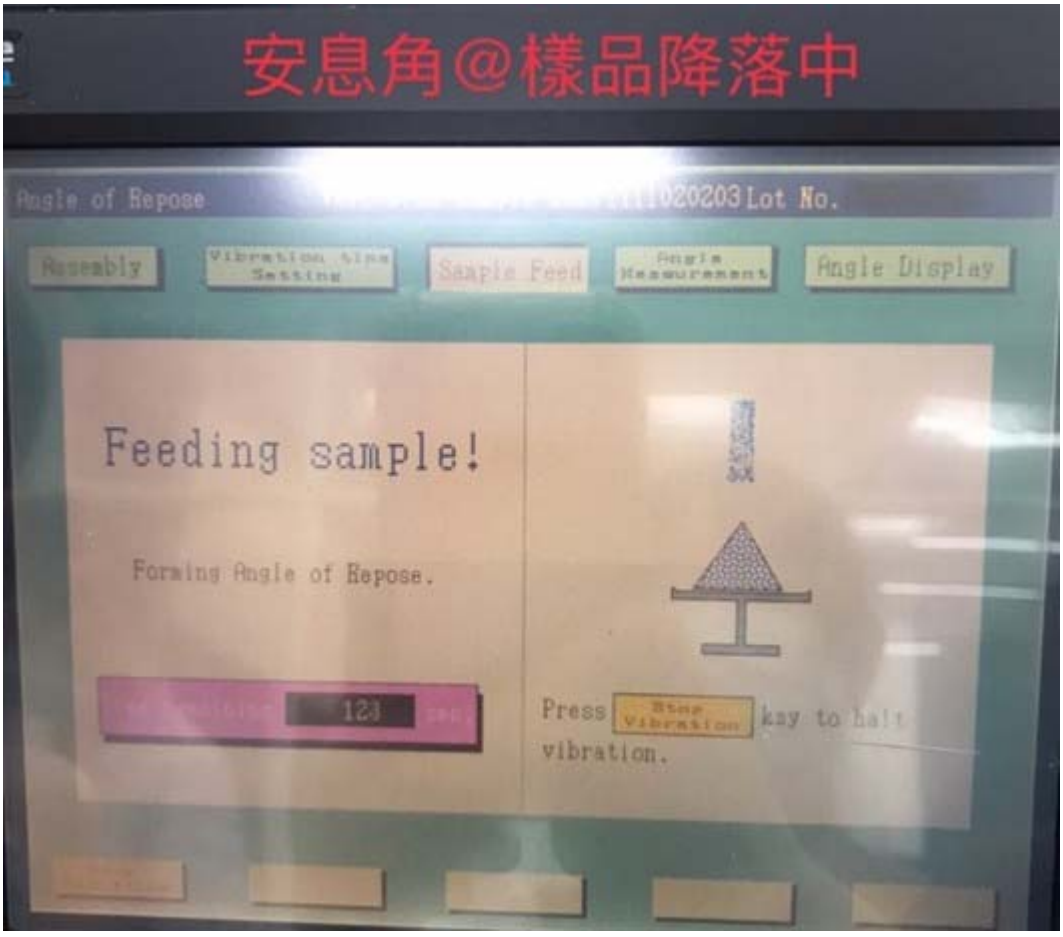


機台位置： 台大化學工程學系 粉粒體技術實驗室 連絡電話(02) 3366-3010、3366-3011

數據範例： 安息角分析







機台應用：

“Flowability” Measurement Terminology

Flowability:

- Defined as the movement of a powder from a stationary to a moving state. Whereas a free-flowing powder moves consistently and steadily with particles moving independently of one another.

Angle of Repose

- Angle of Repose is the direct indication of the potential flowabilities of a powder sample.

Compressibility

- Compressibility is determined by the relative measurement of loose and packed bulk density. Any powder sample having more than 20% compressibility may need additional measures to prevent bridge formation in a hopper and/or storage bin.

Angle of Spatula

- Angle of Spatula is an easily determined property that gives a relative angle to of internal friction of a dry powder sample. A spatula is inserted into the powder heap parallel to the bottom and then lifted up and out of the powder sample.

Cohesion

- Cohesion is the natural attraction of dry powder particles to each other. It is an indication of the "flowability" of the powder sample. Care should be taken in designing feeders/hoppers and other handling equipment for powder samples having higher cohesion.

Uniformity

- Uniformity is defined as the ratio of particles of a given sample at the value points of d60 divided by the d10

Each measurement obtained using the Powder Characteristics Test can be converted into a corresponding index number using the Carr "Flowability" chart. The total of four (4) (using either Cohesion or Uniformity) index numbers will indicate the "Flowability" index as defined by RL Carr. Based on the "Flowability" index obtained from the chart the severity of either bridging or compaction of a material can be determined. How to eliminate the compaction of stored materials can be determined by the Flowability values.