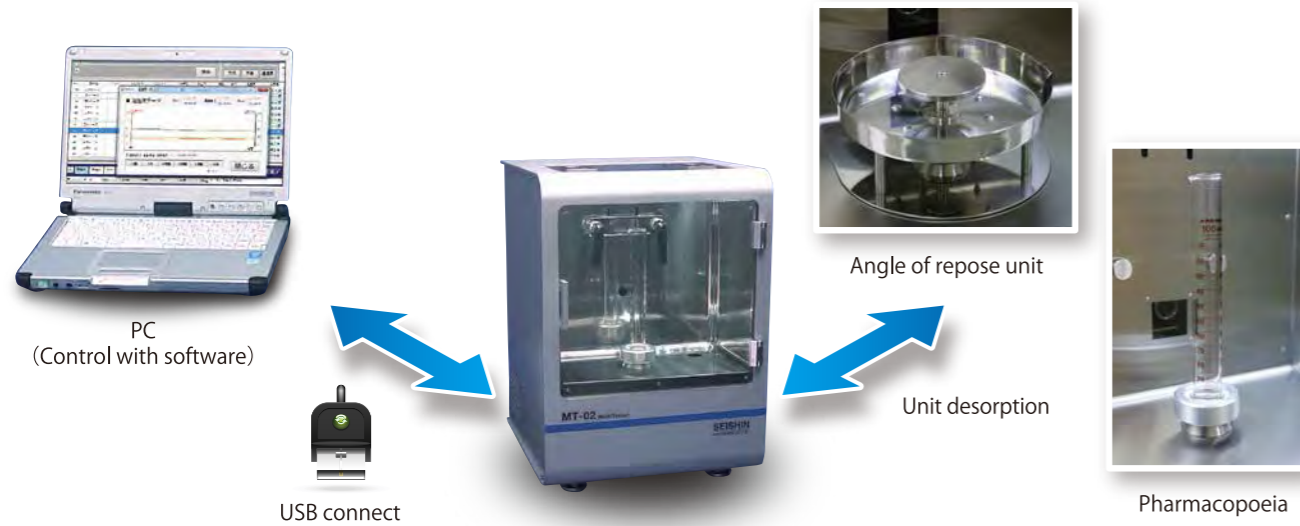


## System Configuration



# Multi Tester MT-02

Measuring instrument of Multi functional powder properties  
Multi Tester MT-02

## Specifications

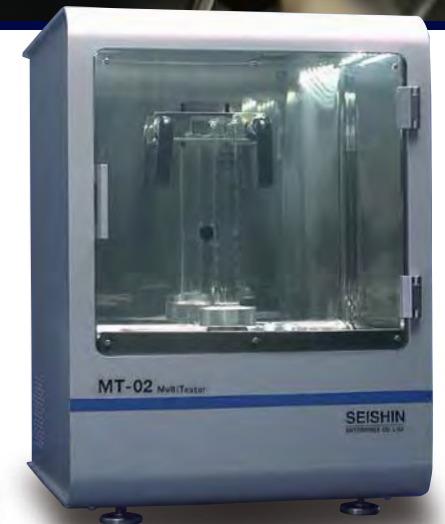
Analysis Items, Unit, Parts	① Bulk density	Bulk density cell 100cc
	② Hardnes density	Condensation cell 100cc, Stroke 18mm
	③ Compressibility	Calculate from ① and ②
	④ Angle of repose	Angle of repose table unit Recorded 2 direction by CCD camera
	⑤ Angle of rupture	Angle of repose table unit Recorded 2 direction by CCD camera
	⑥ Cohesiveness	Set of sieves for testing (710, 355, 250, 150, 75, 45 μm) using 3 pcs
	⑦ Angle of spatula	Spatula, table unit, Spatula automatic lifting, Recorded 2 direction by CCD camera
	⑧ Dispersibility	Dispersibility unit
	⑨ For pharmacopoeia	Tapping table for stroke 3,14mm for pharmacopoeia
	⑩ Tap density	Tapping cell unit *Option
Others	PC	Note type or desktop type with windows 7 or newer (for 32/64bit)
	Electronic balance	Data uptake possibility to PC SYStem *Option
	Cleaner	for cleaning the powders in the equipment *Option
Dimension, Weight, Power	Dimension	440 × W470 D × 620 H
	Weight	About 60kg
	Power	AC100V × 50 / 60 Hz × 5A

※Products listed in this catalog have been designed and manufactured for common powder materials and do not have specifications for particularly hazardous matters (toxic matters, explosives etc.) Kindly use these products after having taken adequate steps when using them for hazardous matters (toxic matters, explosives etc.)  
 ※In the case of using the equipment in overseas, it is necessary to offer export country name, company name and end use etc in advance. please feel free to contact the person in charge, your kind understanding would be much appreciated.  
 ※The specification of goods and the pictures in this catalog will be changed without notice.



## To all people who treat powders

- A stable filling becomes possible by improving the sieve vibration structure.
- The design becomes more compact and the operability becomes better.
- Noise is decreased by reducing the shaking.
- The temperature and humidity are recoded automatically during measuring.
- Measuring precision is improved by changing the photographing direction from one direction to two direction with turning the measurement unit.
- It is possible for beginner to measure by improving the software.



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Inquiry...

**MT-02**  
Multi Tester



**New function**

- The specification can be used for the Japanese Pharmacopoeia.
- The measurement precision is improved by changing photographing direction from one direction to two direction.
- The supply property gets well by changing the vibration direction of feeder.
- The temperature and humidity are recorded automatically during measuring.
- Cleaning work is improved by installing the dust chute.

The base property of powders includes fluidity, dispersibility, adhesion, cohereability and particle size distribution

This equipment is used with two analysis method as below.

- For fluidity and floodability → Carr index
- For fluidity and adhesion → Kawakita's equation

This equipment also can measure bulk density and tap density.

Only using this one multi tester, you can measure various powders property items.



**Example of utilization**

**Problems that occur when supplying**

Hopper

**Inclination angle of hopper :**  
( Confirming fluidity )

- Angle of repose

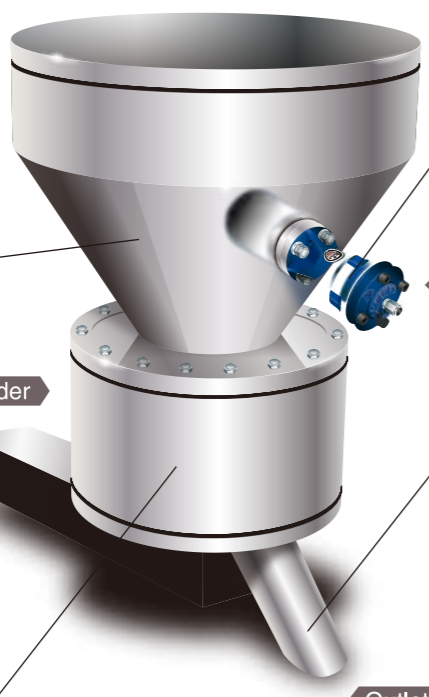
Feeder

**Bridge and rat hole appear :**  
( Confirming fluidity and compressibility )

- Angle of repose, compressibility and so on

**Powders don't flow :**  
( Confirming fluidity )

- Compressibility, angle of repose, cohereability



Outlet

**Knocker is necessary :**  
( Confirming fluidity )

- Angle of repose, Angle of repose compressibility and so on

**If the effect of knocker can be expected :**  
( Confirming floodability )

- Angle of rupture, angle of difference

Air knocker

**Flushing occurs :**  
( Confirming floodability )

- Angle of rupture, angle of difference, dispersibility and so on

**Fixed quantity supply is impossible :**  
( Confirming fluidity )

- Compressibility, angle of repose, angle spatula

**Carr index :**

- Angle of repose, angle spatula, compressibility, cohereability → fluidity index
- Fluidity, angle of rupture, angle of difference, dispersibility → floodability

**For the Japanese Pharmacopoeia**

**Tapping condition**

- ▶ Change from option to standard device.
- ▶ This equipment can measure bulk density and tap density of the Japanese Pharmacopoeia.
- ▶ The electric balance is made by mettler Toledo. (precision: 0.01g type)

Drop height	Tapping speed
3 ± 2mm	250 ± 15times / min
14 ± 2mm	300 ± 15times / min

**for glass cell**

100ml	Weight of support stand
250ml	240 ± 15g
	450 ± 10g



**Precision improvement of angle of repose, angle of rupture, angle spatula**

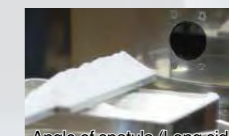
- ▶ Precision improvement can be performed by adding the position of angle analysis with turning the measurement unit.
- ▶ In the case of measuring angle spatula, it is possible to analyze two direction from both long side and short side by setting the turn angle to 90°.
- ▶ The precision of image analysis is better than usual.
- ▶ Using calibration jig of 30° and 45° for angle of repose, and using calibration jig of 30° and 60° for angle spatula.



Angle of repose, Angle of rupture



Angle of spatula (Long side)



Angle of spatula (Long side)



**Feeder property improvement**

- ▶ Fixed quantity supply become easy by changing the vibration from outlet control to amplitude control.
- ▶ The problem of clogging can be solved by changing the vibration direction from horizontal direction to vertical direction.



**Temperature and humidity are recorded**

- ▶ For confirming the measurement condition, MT-2 add a new record function that can record temperature and humidity.
- ▶ Temperature and humidity are link to measurement time of data, you can confirm it as right picture.



**Cleaning time can be shortened by installing the dust chute**

- ▶ Cleaning work becomes easy by installing the dust chute.
- ▶ The powders from dust chute are collected to cup which is installed in the side of main body.

