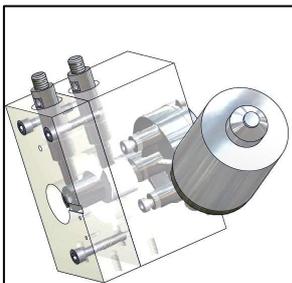


Tapped or Bulk Density or Apparent Volume Test Instrument - Type PT-TD200



PT-TD200 Touch is a single station testing instrument to test the Apparent Volume and Apparent Density of powders and granules in compliance with USP <616 App. 1 + 2> and also with the EP <2.9.34> and DIN 53194 in one instrument. The electronics automatically detects in which position the cylinder dish has been introduced and adjust the tapping speed and height according to the requirements of EP/USP 616, Method II or USP 616, Method 1



The bulk density of powders is usually reported both as "freely settled" and "tapped" density, where the tapped density refers to the bulk density of the powder after a specified compaction process, usually involving tapping motion of the product cylinder.

The instrument can be used to determine additional physical product characteristics such as particle size, size distribution and shape. Together with information describing other powder behavioural characteristics such as flow properties, density etc., the results are used to maintain or improve product quality during development as well as securing product consistency in quality assurance and in-process control. The nominal (standard) test cylinder volume is 250ml, but an upgrade set allows the user to use a smaller test volume of 100 ml.

As per EP <2.9.34> and USP <616> the sample is initially tapped 10, 500, and 1250 times. The volume of the tapped sample is checked and another 1250 tap test follows, this procedure is repeated if the volumes of V_{500} and V_{1250} differs by more than 2ml. This result is used to calculate Apparent (tap) volume, the ability to settle is calculated as the difference between V_{10} ml and V_{500} ml and Apparent

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(tap) density. Apparent volume is expressed in g/ml and calculated as volume divided by weight, tap density is expressed in g/ml and calculated as weight divided by volume.

The instrument detects automatically the working position of the cylinder dish and adjusts accordingly the settings.

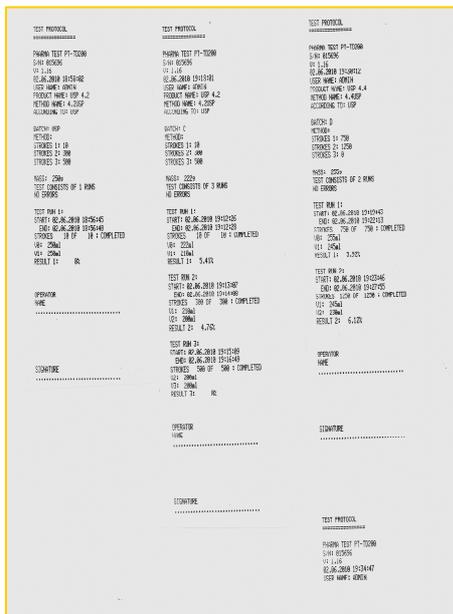
Built-in Program Features

The PT-TD200 offers the possibility to enter testing information such as number of tapings, repeated testing, volume and weight information as well as product information. Prior to a test start the operator needs to enter actual product details such as batch number and the instrument is ready to operate.

User Access Control

Additionally its possible to activate a user access control offering to enter user names, password and access rights. If this feature is active only authorized users can operate, or qualify the PT-TD200

Reporting



The PT-TD200 is equipped as standard with an RS232 COM and a USB/s port which allows the connection of a PT-DL1 Data Logger and the update of the system in case this will become necessary any time. Connecting the serial PT-DL1 printer enables the print-out of a report of test results including the detailed description of the used testing method, operator (if activated) and the results including volume and weight information.

The PT-TD200 TOUCH standard instrument offers the following features

Tap height

3.0 ± 0.2 mm or 14.0 ± 2 mm (USP, EP, DIN)

Number of Strokes

Selectable from 10 - 9999

Tap Frequency

250 and 300 taps/minute

Number of test stations

1 (to avoid interferences)

Interface Board (490-0541)

COM port 490-0542 for the PT-DL1

USB/s port 490-0546 for PC communication

Test Cylinder Volume PQ Program

250ml cylinder is standard with a 100ml option
Integrated PQ program for tap "drop" height and stroke frequency

Documentation

All IQ and OQ documentation supplied as standard

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Options

- PT-DL1 serial Printer (30-30603)
- 100 ml cylinder and support for smaller volume tests, easily exchangeable with the standard 250 ml set-up (order no. 490-0210)
- 10 ml cylinder usable with the smaller volume set (490-0310)
- Noise Reduction Hood



100 ml Test Set (490-0210)



Noise Reduction Cabinet (49-02100)

100ml Small Volume Set

The small volume set is designed for those users who have either limited sample sizes or work with small sample volume samples generally. The 100ml set is easily introduced on to the PT-TD200 TOUCH main frame and allows the same modes of operation as you would have with the standard 250ml. In addition a 10 ml cylinder can be used with the same support to test even less material.

Noise Reduction Cabinet for the PT-TD200 TOUCH Tap Density Tester: Offers enhanced user protection

Due to the nature of the Tap Density test and the open design of the instrument, there is a certain amount of noise generated throughout a test cycle. This level of noise is not always accepted within the laboratory environments. In this case, use of the noise protection hood offers an efficient solution. By the use of special sound damping materials the sound of the tapping mechanism can be effectively reduced. The generated noise is reduced to such a level that the instrument may be used in the most noise sensitive environments.

Operating Principle of the Noise Reduction Cabinet:

The cabinet is designed using materials which absorb the relatively low frequency noise generated during instrument's operation. Access to the instrument is conveniently achieved via a front door so that the cylinder may be removed for cleaning and / or sample change. Suitable cut outs are provided on the rear panel for electrical connections

Tapped or Bulk Density or Apparent Volume Test Instrument - Type PT-TD200

PT-DL1 serial Printer (30-30603)



The serial Printer PT-DL1 is connected to the standard RS232 COM Port. The printer uses paper rolls of width 57 mm.

Technical Data

Display:	LCD Display
Keyboard:	Function keys
Tapping frequency EP, USP, M2:	250 ± 15 strokes/minute
Tapping frequency USP, M1:	300 ± 15 strokes/minute
Tapping height EP, USP, M2:	3.0 ± 0.2 mm
Tapping height USP, M1:	14 ± 2 mm
Number of strokes:	Selectable from 10 - 9999
Number of test stations:	1 (to avoid any sample confusion or cross-interference)
Noise Level in operation:	Approx. 74 dBA (without noise reduction cabinet)

Weights and Dimensions

Net weight:	approx. 15 kg
Gross weight:	approx. 23 kg
Packaging:	approx. 60 x 60 x 40 cm

Pharma Test reserves the right to change specifications in order to improve product quality at any time without notice

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