



Media Deaeration, Pre-heating to a temperature around 37° C and absolutely precise Gravimetric Dispensing according to the recommendations and demanded for dissolution testing from the US FDA authorities are standard of the PHARMA TEST PT-DDS Media Deaeration System.

Effective Media Deaeration is one of the most important requirements for a successful dissolution test. USP Reference Standard (RS) Tablets in particular react very sensitively to ineffectively deaerated media. Mostly the test fails to arrive at the labelled specification of release even if the technical parameters of the dissolution bath in use have been checked and passed.

A save and efficient way of media deaeration of un-dissolved oxygen (O²) is offered by the techniques the PT-DDS is using. The prepared media (buffer) is filled by means of vacuum or manually into the storage and heating tank of the instrument. While the media is heated it is constantly circulated under vacuum within the tank. Because of this operation the PT-DDS provides fully deaerated and preheated media ready to be dispensed into the USP dissolution vessels. The system is more effective than others since the deaeration process can be maintained for as long as required as opposed to instruments which only deaerate

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Media Preparation and Degassing - Type DDS 4

during dispensing. Another advantage of media preparation is the time saving to start consequent dissolution runs as the media is already at the required testing temperature of $\pm 37^{\circ}\text{C}$. This cuts down the start up time a lot.

Gravimetric measurement which is the most accurate method of liquid dosing.

Media is dispensed directly into the dissolution vessel which is safely placed in its stand during filling. Dosing range can be adjusted within a range of 250,0 to 5000,0 g with an accuracy of $\pm 0.5\%$ max. $\pm 1\text{ ml}$ which is much better than any valid pharmacopoeia requires at present. Enter the media density to correct the dosing. Temperature can be adjusted within the range of $30,0^{\circ}\text{C}$ to $70,0^{\circ}\text{C}$ with an accuracy of $\pm 0,5^{\circ}\text{C}$.

Volumetric dosage is selectable on option.

The deaerated media is filled directly into the vessels inside a dissolution instrument. The design of the filling arm ensures a slow filling along the side of the vessels to avoid oxygen saturation while filling.

On line Buffer mixing using the built-in electronic load cell (balance) is also available.

Enter the amount and density of buffer (100g - 5000g) to be filled into the pre-filled storage tank.

The portable PT-DDS System offers the user easy servicing of many dissolution baths. The built-in pre-heating tank is easily removable to be cleaned. When media has to be changed a tube flushing run is automatically done previous to any dispensing.



The operation control panel offers to the user the possibility to program the dispensing (weight) volume, the temperature to pre-heat the media and the total deaeration time. All information including information about the dosed weight/volume and statistics can be printed at the built-in thermo printer.

For cleaning and media change simply open the instrument housing and pull out the stainless steel tank which is fixed to a movable dish. Open the drainage valve and empty the tank of any medium left. Flush the tank again and repeat the software assisted process.

Calibration

Use the built-in load cell and a certified 1 kg weight to qualify and adjust the accuracy of the dosing system. Most other equipment needs external instruments (Balances etc.) for qualification.

Features...

- Keypad to enter media specifications and density for accurate dosing
- Method file to store 16 media specifications

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- The only instrument which offers a software supported Calibration Program to validate and calibrate dosing accuracy using a certified 1 kg weight
- Dosing performance test possible using built-in strain gauge
- Correct dosing accuracy by entering density of media (changes because of temperature or solvent used)
- Gravimetric dosing - 250 -5000 g
- Optional volumetric dosing - 250 - 5000 ml
- Indicates rest volume of the tank - min. 1 litre
- Optional on-line buffer mixing - 100 - 5000 g
- Built-in Thermo Printer
- Print out of entered dosing information for validation purposes
- Deaerates to approx. 35% of rest gas content (residual oxygen less than 5 ppm inside PT-DDS container)
- Qualification accessories available
- Can be used to dose into any vessel arrangement inside the dissolution bath
- Max. 2 litre waste when media change has to be done
- Easy to clean system, stainless steel tank sits on movable base, easy to remove
- Noise protection - max. level approximately 60dB
- Fill-up program under pressure (connect directly to factory de-min. water supply)
- Fill-up program under vacuum (prime from any external container)

Technical Data

Display:	LCD (8 x 8 cm)
Keyboard:	alpha-numerical
Printer:	built-in Thermo-Printer
Interface:	1 RS-232 port
Memory:	up to 16 methods
Tank volume:	approx. 25 litre filling volume
Sensoring:	volumeter reading the filling volume
Vacuum pump:	0.5 bar
Heater capacity:	750 W
Temperature range:	30.0° - 70.0° C
Temperature accuracy:	± 0.5° C
Dosing range:	250.0 - 5000.0 g
Dosing accuracy:	± 0.5% of the volume (gravimetric) ± 0.8% of the volume (volumetric)
Dosing time for 1000 ml:	approx. 45 seconds
Deaeration time for 25 l:	approx. 30 minutes
heating up time starting at 20° C:	approx. 45 minutes

Dimensions and Weights

moveable stainless steel bench	W 550 mm x D 700 mm x H 900 mm
height of dispensing pipe	1300 mm from floor
Net weight	approx. 75 kg
Gross weight	approx. 110 kg
Packaging	700 x 850 x 1050 mm

We reserve the right to make technical changes without any prior notice

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Options ...

- Online Buffer Dose and Mixing System
- Volumetric Dosing Attachments
- DO² Tester to read the amount of deaeration
- certified pressure gauge to measure and certify the vacuum inside the tank



shows degassed media - no floating particles
particles if properly degassed



huge amount of floating un-dissolved
using no degassed media

DO² - Meter - Model 9200



DO² - Meter - Model 9200 - to test the oxygen content and temperature of degassed media. Optional the connection to a PT 543 001 printer is possible to report the test results. The instrument comes with a standard DO²/Temperature probe, spare membranes & KCl, zero powder, membrane cover, membrane protective cap and 3 AA cells

- DO² Range: 0-199% - 0-25.0% - 0-19.99 mg/l
- Resolution: 1% - 0.1% - 0.1 mg/l
- Accuracy: ± 2% within 10°C of calibration temperature
- Temperature Range: -10 - +60°C
- Accuracy: ± 0.5°C