

ELECTROLAB

Your Quality, Our Assurance

Catalogue

Dissolution

Friability

Electromagnetic Sieve Shaker

Disintegration

Media Preparator

Bulk Density

Tap Density

Tablet Hardness

Peristaltic Pumps

Leak Tester

Manual Powder Flow



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About Us



Our state-of-art facility at Mahape,
Navi Mumbai, India

ELECTROLAB established in 1984, manufactures pharmaceutical testing equipments and peristaltic pumps which are used in several industries and exports more than 50% of its production worldwide.

For more than 28 years, we have developed innovative solutions that use state-of-art technology along with patented designs to solve our client's toughest challenges and setting an example for commitment to excellence and a passion for exceeding expectations.

The company has a well-trained production team supported by in-house software, hardware and CAD engineers. Every individual at ELECTROLAB understands the importance of quality and timely delivery. A flexible production process and cost effective operations have enabled us to be competitive, responsive and reliable.

The company along with its network of Distributors and Representatives provide validation, support and prompt after sales service to meet its customer's needs in across 70 countries.

ELECTROLAB'S Presence Worldwide



Dissolution Testers



8 Station Dissolution Tester (EDT-08Lx)



LCD
40 x 4

Display

ABC123

Alphanumeric



Password



Infinity Test



Low Vibration



Media volume setting



LAN



Print

14 Station Dissolution Tester (EDT-14Lx)



ELECTROLAB



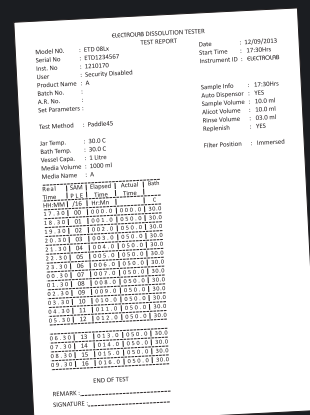
The EDT – 08Lx & EDT – 14Lx dissolution apparatus are the most efficient dissolution instruments in the market, specially designed with the end user in mind. They are simple to operate with features that make analyst training and lab integration easy. The EDT – 08Lx & EDT – 14Lx are not only ideal for manual testing but can be easily integrated with our automated systems and €labDisso™ Dissolution Software.*

For more details please refer to €labDisso™ Dissolution Software.* (Page No. 17)

- Complies with current USP, IP, Ph. Eur. and JP specifications
- Automatic stirrer height positioning for USP 1, 2, 5, 6, intrinsic test methods and also allows user specified height
- Easy Snap-Fit™ shaft locking mechanism for positive engagement and wobble-free operation
- 20 programmable protocols and 24 programmable sampling intervals
- Bath temperature range between 30°C to 40°C is controlled with an accuracy of ±0.1°C
- Isolated water circulating pump for precise temperature control of the water bath
- Easy to empty and clean water bath with bottom drainage
- Instrument accessories like paddles, baskets and vessels are laser marked with serial numbers
- Designed to minimize routine validation
- Facilitates offline /online automation
- Report for online validation of test, monograph, error log during the test and physical validation
- RPM range between 20 to 250 with an accuracy of ± 0.5 RPM

Key Features

- New larger 40 x 4 LCD display
- LAN connectivity allows central printing, storing and sharing of data
- Multilevel security with password
- Alphanumeric data entry of products and user details
- Unique TimeAction™ function which allows media changeover and infinity test run
- Ideal for sustained and controlled release products

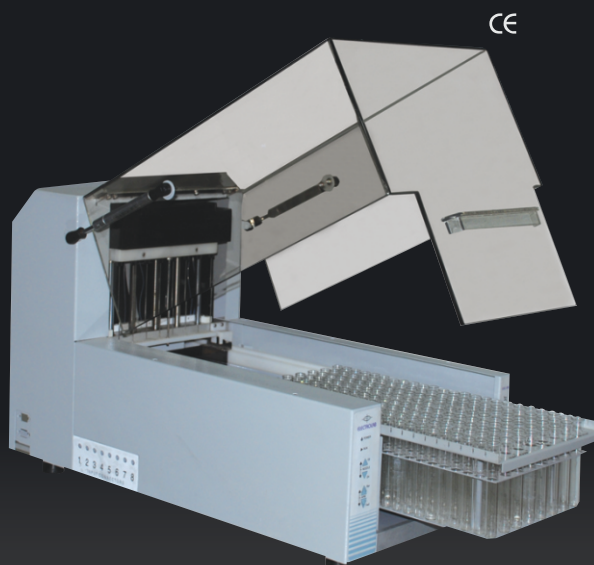


Standard Accessories :
8 Paddles, 8 Basket, with Shaft, 8 vessels with lids and 1 external temperature Probe

Dissolution Test Report



Sample Collector with Stirrer (ESC-08Dx)



up to
30%

Bench space saved

Key Features

- The x-y arm movement meets all the automated sampling requirements such as collecting, mixing, aspirating and diluting the samples
- The diving mechanism pierces the precut septas of vials to prevent evaporative losses
- Special sensor detects the alignment and type of tray used to prevent any human errors
- Completely covered to prevent contamination and air drafts which cause excess evaporation of the collected samples
- Ergonomically designed to save bench space
- Easy removal of waste tray
- Visual indication of sample collector status :
 - Connected
 - Run
 - Error

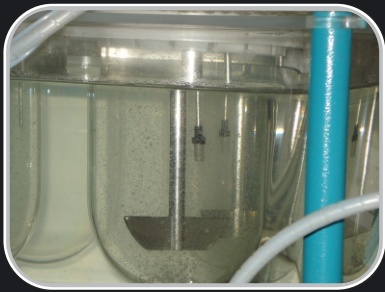
Adapts to 4 Types of Trays*	
HPLC Vials	Glass Tubes
<ul style="list-style-type: none"> • 1.5 ml (24 x 8) • 1.5 ml (12 x 8) • with dilution option 	<ul style="list-style-type: none"> • 25 ml (16 x 8) • 10 ml (24 x 8)
Combination Tray	
8x8 HPLC Vials & Glass Tubes Combination	
(8x8) HPLC Vials 1.5 ml	(8x8) Glass Tubes 25 ml

*Customized trays available



Dissolution System with Multiple Filtration

Most versatile solution in the market with multiple filtration options



Pre-pump frit filters
10 - 15 μ



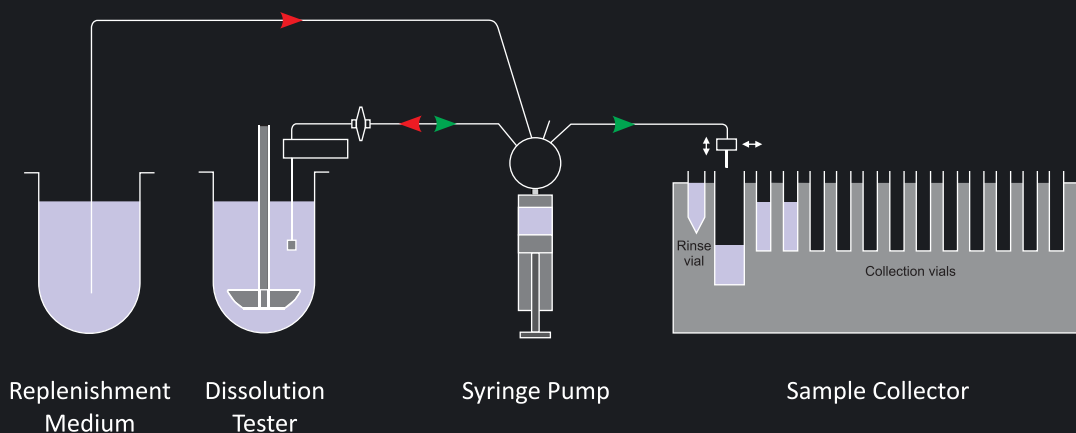
Pre-pump syringe filters
1 μ - 5 μ



Post-pump syringe filters
0.45 μ - 0.22 μ

- Powerful Syringe Pump enables the filtration process up to 2 to 3 stages to enable sample to be used directly in HPLC / UPLC without further filtration
- Benefits of using Manual Syringe Filters:
 - a) Ease of method transfer
 - b) Reduced operating cost
 - c) Filter re-validation studies not required
- ELECTROLAB Pre-pump filter manifold & Post-pump filter manifold are compatible with 25 mm and 33 mm manual syringe filters

Offline with 3 step filtration



Dissolution Testers



8 Station Automated Sampling System with Syringe Pump and Sample Collector



Auto DropSync™ (optional)

CE



Snap-Fit™ Shaft



Multi-stage filtration



Motorized Lift Mechanism



Infinity Test



Multi-level Security



Smart rinsing



Isolated temperature controller



LAN



Report

14 Station Automated Sampling System with Syringe Pump and Sample Collector

CE



Dilution with stirring (optional)



60+% Savings*

* Compared to two 8 station Dissolution Systems, one 14 station Dissolution System saves:

- 67% bench space
- 64% electricity
- 63% water





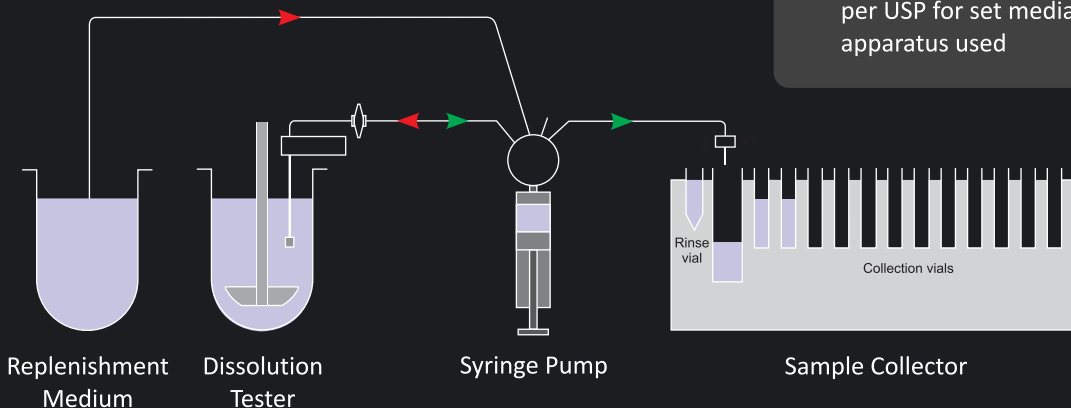
Automated Sampling System with Syringe Pump and Sample Collector

- Perform key operations like diluting and mixing samples up to 1:25, filtering, storing, and replacement withdrawn samples with fresh media
- The glass / teflon syringes eliminate adsorption and offer a high accuracy of dosing (better than $\pm 1\%$)
- No routine calibration or maintenance
- High performance ZDV (Zero-Dead-Volume) syringe pump for precise and accurate sampling
- The high suction capability enables efficient use of fine inline disk type syringe filters (0.45 and 0.22 microns) eliminating manual filtration process
- The 4 - way motorized valve offers unprecedented system flexibility and the capability to deal with sticky media
- The ergonomically designed syringe pump has a very small footprint to save bench space
- Support 10 ml and 25 ml syringes

Key Features

- The most versatile system, since the samples can be analyzed on any UV or HPLC
- Performs all operations like **filtration, storage, replenishment and dilution**
- Offers split rinse™ to ensure significant **removal of carryover** in the transfer tube
 - **Split Rinse™**: Programmable rinse volume purged to waste in multiple cycles to avoid carryover
- Programmable multiple cleaning and drying cycles after the end of every test
- Validation cycle is provided for verification of sample, rinse, replenishment and diluent volume
- The sampling manifold dives the cannulas and vessel temperature probes to the appropriate sampling zone automatic as per USP for set media volume and test apparatus used

Autosampling with Replenishment and Dilution (Optional : Split Rinse™, Loop Back)



14 Station Automated Sampling System with Syringe Pump and Sample Collector

Key Features

- Complies with current USP specifications
- Performs 2 stages of a dissolution test simultaneously, thus saves considerable time
- Efficient tool for bio-waiver, ANDA and SUPAC-MR where $n = 12$
- Up to 288 samples can be collected (24 x 12)

Dissolution Testers



8 Station Automated System with Syringe Pump & UV Spectrophotometer



Auto DropSync™
(optional)



Multi-level Security



CE

Snap-Fit™ Shaft



Smart rinsing



Multi-stage
filtration

Syringe Pump

Perkin Elmer
Lamda-25/35 UV



Isolated temperature
controller



Motorized Lift
Mechanism



LAN



Infinity Test



Report



14 Station Automated System with Syringe Pump & UV Spectrophotometer

CE

Syringe Pump

Perkin Elmer
Lamda-25/35 UV

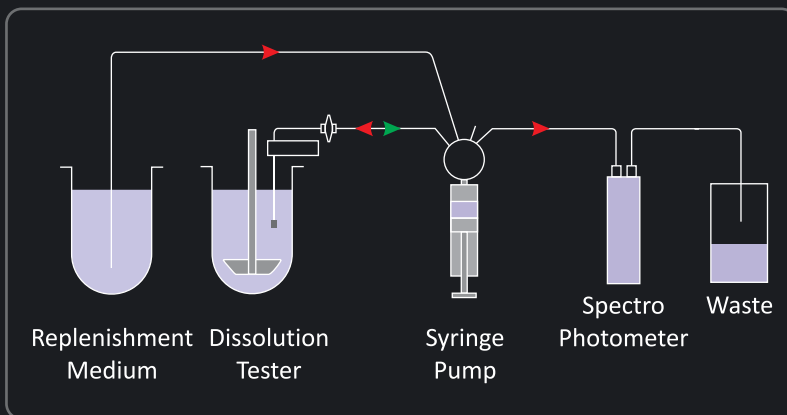




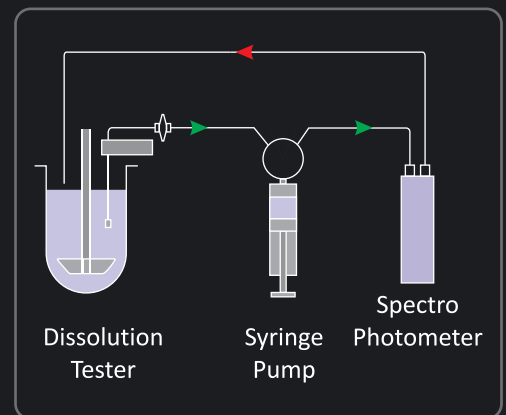
8 Station Automated System with Syringe Pump & UV Spectrophotometer

Key Features

- Supports open and closed loop configurations
 - In open loop the sampled media is purged to waste with the options to replenish the sampled volume with fresh media
 - In closed loop sampled media is circulated through cell
- The high suction capability of the syringe pump enables the efficient use of fine inline filters
- Shortest sampling intervals of 3 min
- Controlled by ELECTROLAB's ElabDisso™ dissolution software*
- Support Shimadzu UV-1700, UV-1800, Perkin Elmer Lambda-25/35/45 UV and Analytic Jena Specord R 205/210UV spectrophotometer with 8 cell changer



Online Autosampling (Open loop) with Replenishment



Online Autosampling (Open loop)

14 Station Automated System with Syringe Pump & UV Spectrophotometer

Key Features

- Ideal tool for generic industry
- Efficient tool for bio-waiver, ANDA and SUPAC-MR where n = 12
- Useful tool for NDDS studies

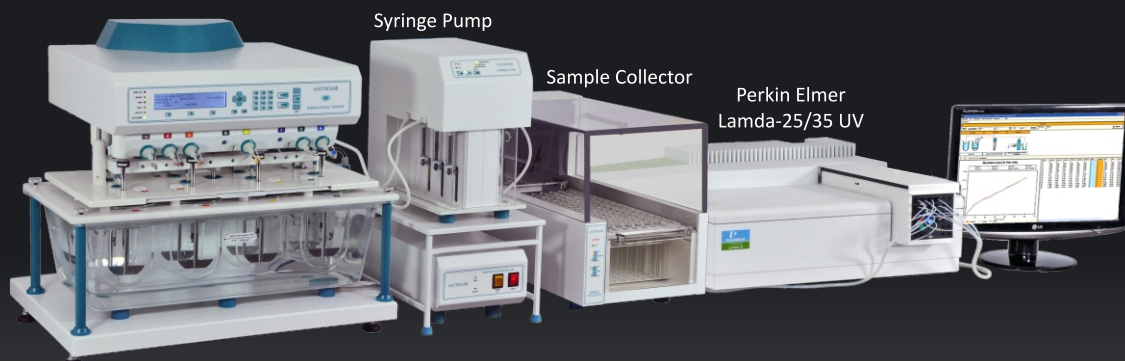
* For more details please refer to ElabDisso™ dissolution software on page 17

Dissolution Testers



8 Station Fully Automated System with Syringe Pump, Sample Collector & UV Spectrophotometer

CE



Auto DropSync™
(optional)



Snap-Fit™ Shaft



Multi-stage
filtration



Motorized Lift
Mechanism



Infinity Test



Multi-level Security



Smart rinsing



Isolated temperature
controller



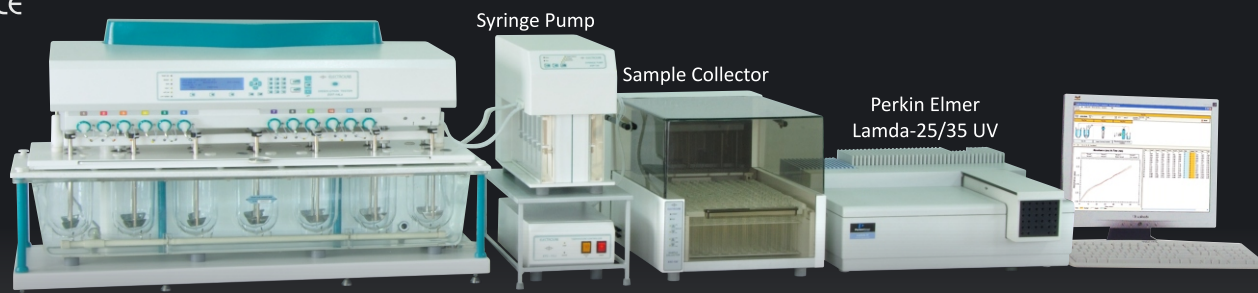
LAN



Report

14 Station Fully Automated System with Syringe Pump, Sample Collector & UV Spectrophotometer

CE



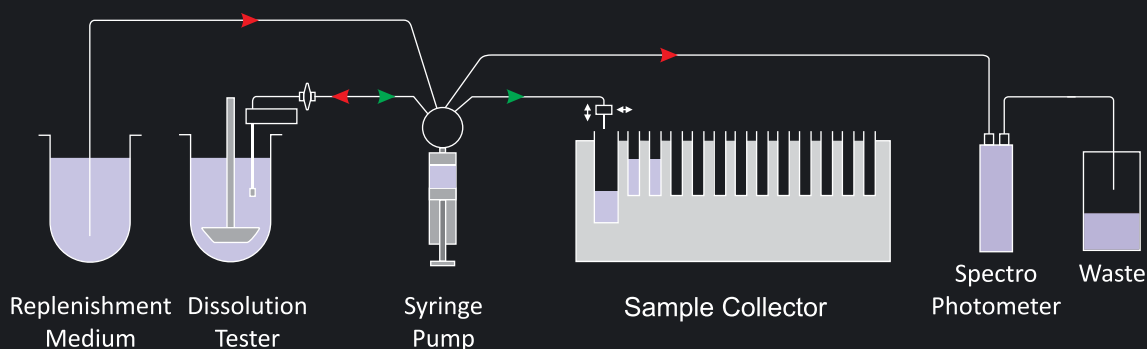


Fully Automated System with Syringe Pump, Sample Collector & UV Spectrophotometer

Key Features

- Most flexible configuration, since it allows online, offline as well as online - offline operation
- Cross verification of the sample can be performed using the balance sample in the collector
- A wide range of dilutions of up to 1 : 100 is achievable in combination with the path length of the flow through cells and dilution via the sample collector

Online-Offline Autosampling with Replenishment and Dilution



Auto DropSync™

Auto DropSync™ allows you to maintain same sampling time in dissolution testing, without affecting results. Tablets are introduced / dropped in dissolution vessel automatically as the set temperature is achieved.

Advantages

- Maintain uniform sampling time so reducing variability in results
- Automated dosage dropped for dissolution in vessels after achieving the ready state and test starts automatically



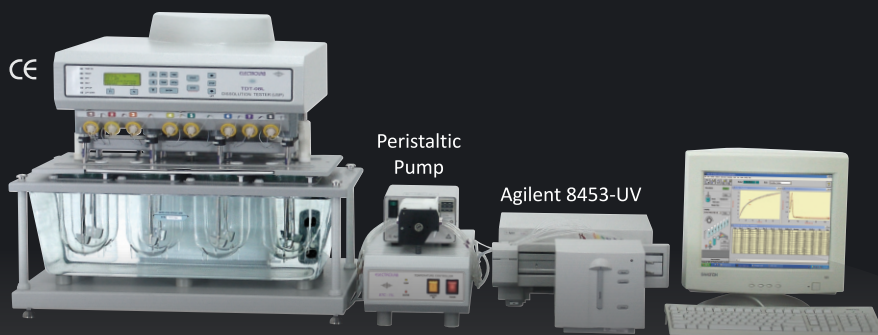
8 Station Automated Sampling System with Peristaltic Pump and Fraction Collector



Key Features

- Supports various types of glass vials and tubes
- Supports multiple configurations with rinsing capability
- Rinse cycle is programmable to ensure carryover removal from the tubes
- Accurately samples and replenishes the programmed sample volume from each vessel and delivers it to a (6 x 12 = 72) Fraction Collector

8 Station Online Automated System with Peristaltic Pump and Agilent UV Spectrophotometer



Key Features

- Supports closed loop configuration with 8 cell changer
- Seamless integration of ELECTROLAB's Edisso™ software along with Agilent's dissolution software to control the system
- Supports up to 4 dissolution baths for online dissolution test with single UV spectrophotometer

Manual Syringe Sampling



Key Features

- For easy and fast manual sampling
- 10 ml as well as 25 ml syringes can be used for sample collection
- Disc type filters (1 to 5 micron) can be attached
- Inert PTFE tubings are used to collect samples unaffected
- Upgradable to automated sampling
- No routine calibration

Suitable for 8 & 14 Station Instrument

Dissolution Testers



8 Station Dissolution Tester with 2 litre Vessels (EDT-208Lx)



Key Features

- To evaluate poorly soluble drugs
- 1 Liter conversion kit also available

6 Station Dissolution Tester with 4 litre Vessels (EDT-406Lx)



Key Features

- To evaluate poorly soluble drugs
- For level 2 pooled dissolution
- For bolus tablets
- For testing veterinary products
- 2 liter and 1 liter conversion kits also available

12 Station Dissolution Tester with Timer (TDT-12T)

Key Features

- Three set of paddle / basket running at programmable different RPM
- Calibrated vessel centering and stirrer positions
- Five programmable sample intervals
- Quick interchange between USP I and USP II methods of testing
- Ideal for research & development of sustained and controlled release product



Optional Accessory:

Retrofittable iDisso™ system for recording drug dissolution process
(For more details please refer page no. 16)

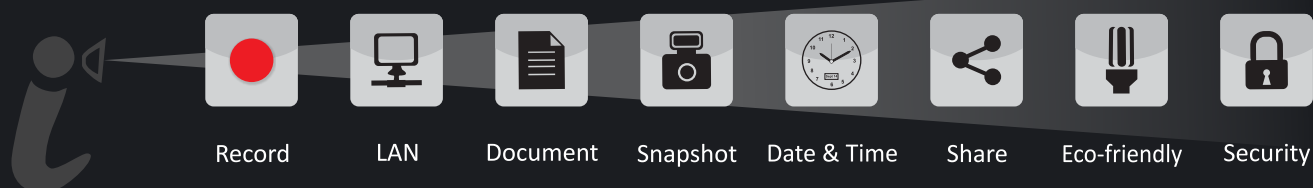
Dissolution Testers



8 Station Dissolution Tester With *i*Disso™ - 06u



Compatible with most of the makes of 6 / 7 / 8 Station Dissolution Tester across globe



- First integrated solution with a user friendly interface to observe & record the drug dissolution & disintegration behavior in the dissolution vessel
- Excellent tool to help in evaluation of OOS, OOT, method development & formulation optimization
- Capacity to record over 1000 hours continuous video
- Simultaneously capture images at pre-programmed intervals for easy sharing & observation of dissolution / disintegration rate
- Remote viewing of the dissolution process via browser enabled network PC
- Adjustable tilt and positioning of cameras at desired height of the vessel
- BlackOut™ option with amber color light for light sensitive drugs

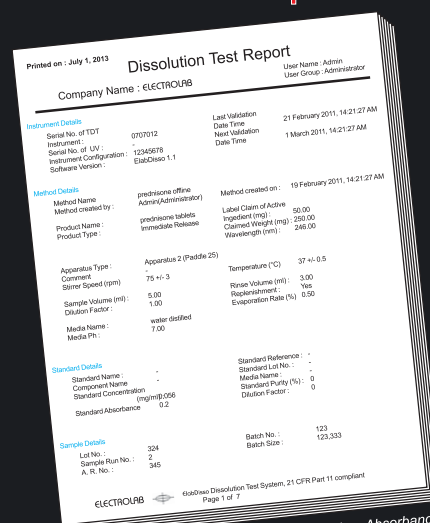
Accessories : BlackOut™ for light sensitive drugs



ElabDisso™ Dissolution Software

21 CFR Part 11 compliant

- The ElabDisso™ version 2.0 software has been designed to perform automation of the dissolution test as well as calculate dissolution results and generate reports.



Available in two versions -

- 1. ElabDisso™ Pro 2. ElabDisso™ Lite
- Configurable system such as basic, online, offline and online-offline
- User-friendly creation and loading of test methods
- Programmable pre-run, run and post-run sequences
- Real time display of tablets and graphs for percentage of dissolution, absorbance and concentration in addition to instrument status
- Performs statistical analysis such as mean, min., max., standard deviation and Percentage relative standard deviation
- ElabDisso™ Pro is available with license (8 & 14 Vessel Dissolution Testers)

A configurable report of -

- Tablets and graphs for percentage dissolution, absorbance and concentration with / without volume and weight correction RPM and temperature validation
- A complete report is generated as per GLP requirement
- The software can conduct pilot F1 / F2 tests in addition to the standard tests
- Context based help available

21 CFR Part 11 Compliant with

- User query-able audit trail log or all events, errors and warnings
- Multi-level user access security among other features
- Facility to backup and restore database
- High security through a closed system with password access and different user rights
- Periodic password changes and user lockout after multiple failed log-on attempts
- Maintain raw data for verification at all times
- Standard calibration by linear regression test
- Multiple ElabDisso™ software can share their database, via centralized database including methods, instrument configuration and reports, with the help of MSSQL database management systems
- Supports Shimadzu UV-1700 / UV-1800, Perkin Elmer Lamda 25 / 35 / 45UV and Analytic Jena Specord 205 / 210UV spectrophotometer and other spectrophotometers on request
- For basic and offline system, spectrophotometry or HPLC absorbance data has to be input manually for the calculations of concentration and percentage dissolved
- Supports Windows 2000/XP/7

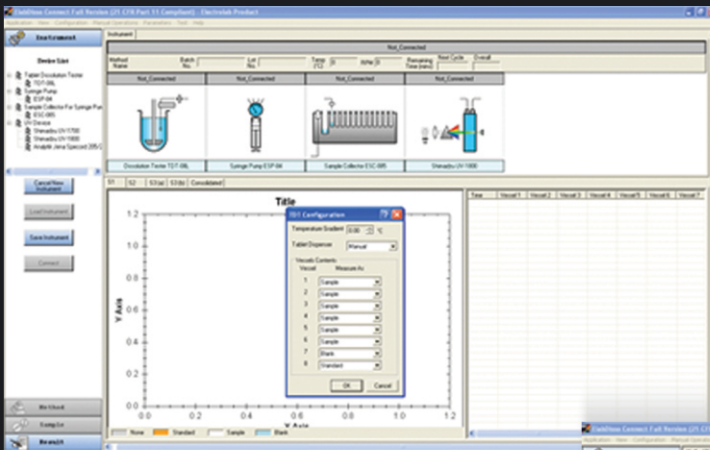
Choice for Table and graphs of % Dissolution, Absorbance and concentration with/without volume and weight correction. Report includes rpm, temperature validation table, statistical functions as min, max., mean, standard deviation and relative standard deviation. Consolidated report of all stages.



ElabDisso™ Dissolution Software Screen Shots

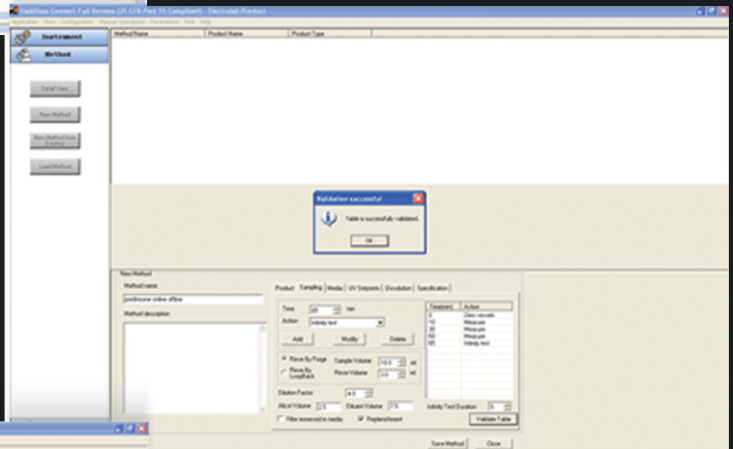
Instrument screen

Drag - and - drop feature allows user-friendly setup of the instrument and test. The device configuration can be saved and recalled for future tests.



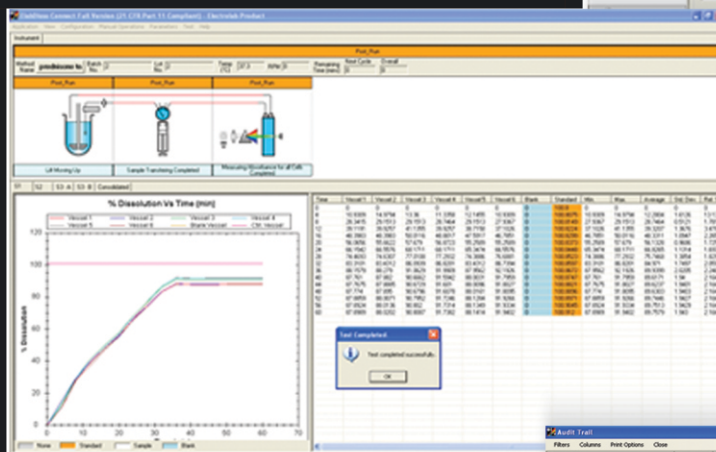
Method screen

Methods can be created for a variety of products, including extended and immediate release dosage forms. Methods are displayed based on the connected configuration of the devices. Existing methods can be easily revised, saving time and reducing errors.



Run screen

Current status of each device as well as time remaining for the next sample and the entire test is displayed. All sample identification details, such as batch number and lot number are displayed. Test methods can be easily referenced and printed. User specified graphs absorbance vs. time, % dissolution vs time and concentration vs time can be generated in real time. Data of all stages can be consolidated for review.



Audit trail screen

Data can be stored by duration, instrument ID, user and date. The generated audit report can be printed in real time during the test run or at a point later in time.

Description	User Name	TDT Serial No.	Type	Source	Day/Time	Control	Reason/Conclusion	Signature
Application Started	Admin	01702009	Info	Use	6/15/2009 10:00			N/A
User logged in	Admin	01702009	Info	Use	6/15/2009 10:00			N/A
Application Started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Application Started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
CCM Part for TDT Device set to COM1	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
CCM Part for UV Device set to COM1	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT Device Configured	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Instrument closed log(T0) Created	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump connected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump connected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump connected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected, but not ready	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected and ready	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready water added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready water added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Method para Loaded	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Sample Run	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Call blanking operation started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Call blanking operation completed	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Call blanking sample handling completed	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Call blanking operation completed	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device Run	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT Pre-run started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Pre-run measured	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT Run started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Label dropped	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Pump operation started	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Pump operation completed	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump disconnected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump disconnected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump disconnected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
TDT - Sample collected, Syringe pump disconnected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected, but not ready	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
UV Device connected and ready	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
Sample Run	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A
How ready para added	Admin	01702012	Info	Use	6/15/2009 10:00			N/A

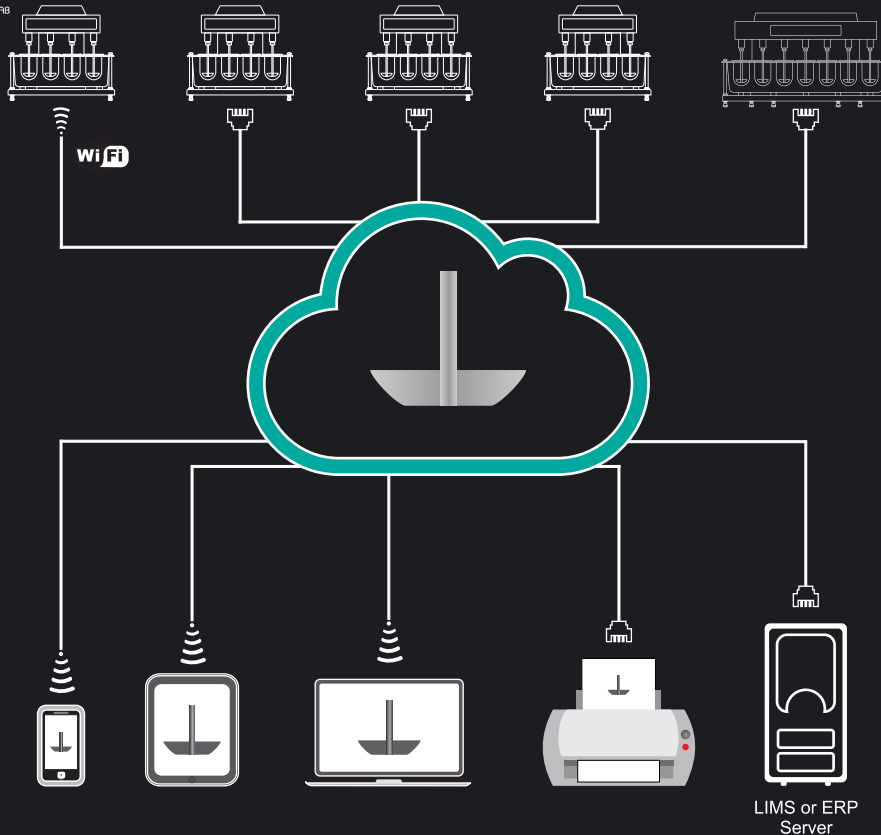


kloudbase™

Access dissolution test information



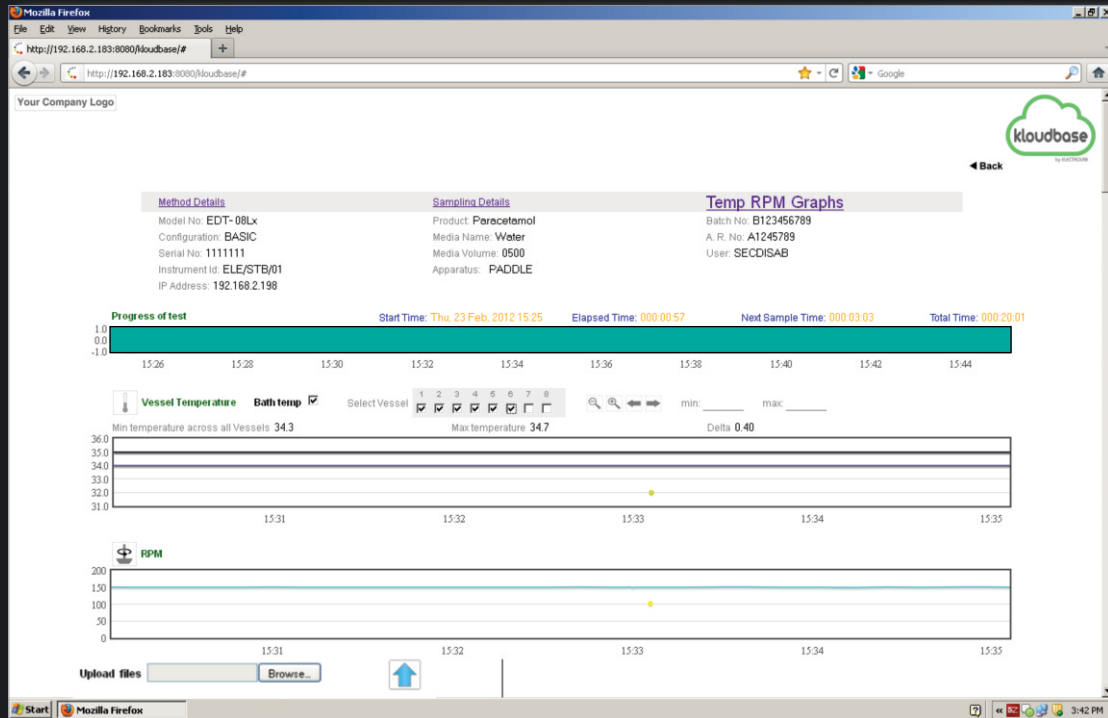
ANY Where
Time
Device



Key Features

- 21 CFR Part 11 compliant
- True thin client application – runs in browsers (Internet Explorer, Firefox, Chrome, Safari)
- View real time status of various instruments, methods, test time, temperature and RPM
- Remotely monitor and record temperature and RPM at every sampling time point
- Unlimited number of users may access test information concurrently*
- Multi - level security
- Open architecture to integrate, archive, export and print data to existing LIMS or ERP servers printers
- Ideal solution to eliminate manual transcription errors, improving efficiency and data integrity
- Can store any type of file (eg. Images, chromatograms, results, iDisso™ dissolution videos)
- View detailed history of all completed tests
- Search function allows for data mining and knowledge retention

* Limited only to the number of instrument licenses purchased



Test Progress

Method Details
 Model No: EDT-08Lx
 Configuration: BASIC
 Serial No: 1111111
 Instrument Id: ELE/STB/01
 IP Address: 192.168.2.198

Sampling Details
 Product: Paracetamol
 Media Name: Water
 Media Volume: 0500
 Apparatus: PADDLE

Temp RPM Graphs
 Batch No: B123456789
 A. R. No: A1245789
 User: SECDISAB

Vessel No	Temp	RPM	Action
1	34.3	100	Completed

Method

Method Details
 Model No: EDT-08Lx
 Configuration: BASIC
 Serial No: 1111111
 Instrument Id: ELE/STB/01
 IP Address: 192.168.2.198

Sampling Details
 Product: Paracetamol
 Media Name: Water
 Media Volume: 0500
 Apparatus: PADDLE

Temp RPM Graphs
 Batch No: B123456789
 A. R. No: A1245789
 User: SECDISAB

Time	Temp	RPM	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Vessel 7	Vessel 8
15:25:00	34.3	100	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
15:33:00	34.7	100	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7

Sampling Points



Dissolution Testers



Flow-Through Dissolution Tester (EFD-07)

USP Apparatus 4

CE



Touch Screen

12 mm
22 mm
++

Different Cell
Available



LAN

USP,
Ph. Eur.
✓

Compliance

99

Programmable
protocols



Print Report

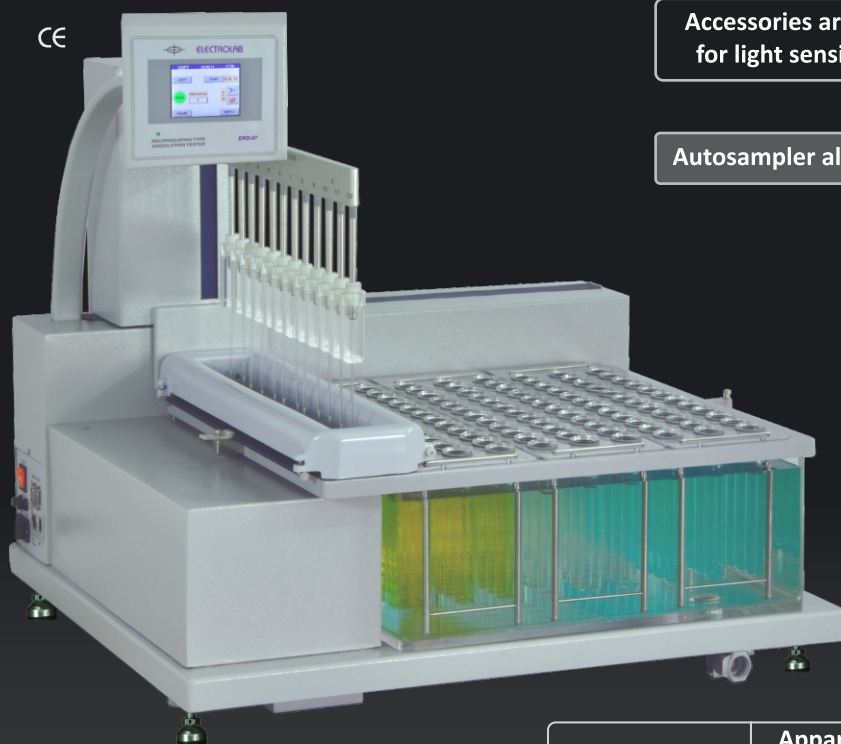
Key Features

- Complies with USP & Ph. Eur. specifications
- Valveless ceramic pump heads
- User friendly intuitive touch screen interface
- 99 programmable protocols
- Automatic flow rate adjustment for individual channels
- Program support for gravimetric flow validation and calibration
- Individual cell temperature monitor (optional)
- Media selector for easy pH change (optional) for open loop
- Isolated water circulating pump for precise temperature control of the water bath
- Closed loop enables media optimization
- Ideal for dissolution testing of tablets, capsules, implants, suspensions, drug-eluting stents, ointments, creams, microspheres and other sustained release dosage forms



Reciprocating Dissolution Tester (ERD-37)

USP Apparatus 3 and 7



Accessories are available for light sensitive drugs

Autosampler also available

	Apparatus 3	Apparatus 7
Vessel Capacity*	Rows x Vessels	Rows x Vessels
50 ml	—	9 x 12
100 ml	6 x 7	6 x 7
300 ml	6 x 7	6 x 7
1000 ml	2 x 3	2 x 3

*Customized vessels capacity available

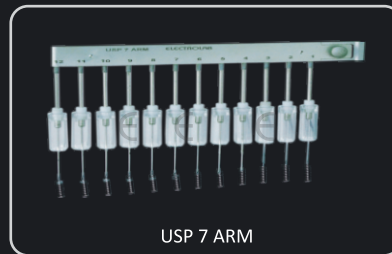
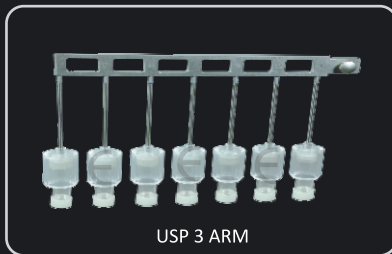
Key Features

- Complies to current USP Apparatus 3 and 7 specifications
- End user can switch between USP 3 and 7 methods within minutes and without any special tools
- Ideal for extended release products or any dosage form requiring release profiling at multiple pH levels
- Select between multiple configurations of rows, vessels and vessel volume to meet testing needs for both USP 3 and 7 methods
- 3.5" TFT display with touch screen
- Facilities manual and auto sampling
- 20 programmable protocols with 24 sample intervals
- Dip rate ranges between 5 to 50 dpm with an accuracy of $\pm 5\%$
- Temperature range between 30°C to 40°C with an accuracy of $\pm 0.1^{\circ}\text{C}$
- Online validation of dpm and temperature

Dissolution Testers



Accessories For ERD-37



Diffusion Cell Apparatus (EDC-07)



7

Station



Sizes of cell



Key Features

- 7 Station apparatus
- Ideal for transdermal and topical products
- Staggered timer function allows the sampling interval time to be equal for each cell
- 10 programmable protocols with 12 sample intervals
- Vertical diffusion cells available in 5, 7.5, 12.5 and 20 ml sizes
- Ergonomically designed to save bench space

2 Station Diffusion Cell Apparatus (EDC-02) also available



Dissolution Tester Accessories

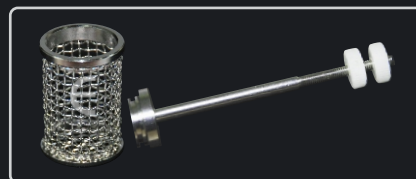


Basket in 10 mesh, 20 mesh, 40 mesh and Gold plated basket

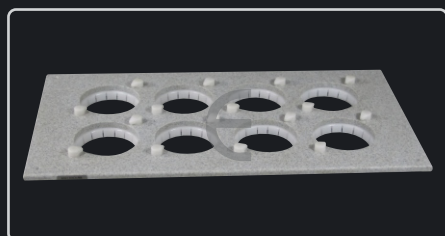


Basket holder with clip

Basket holder with 'O' ring



Stationary basket



Composite top plate for glass vessel



Paddles for 100 ml, 250 ml, 1 ltr, 2 ltr and paddles for enhancer cell



Paddle over disc



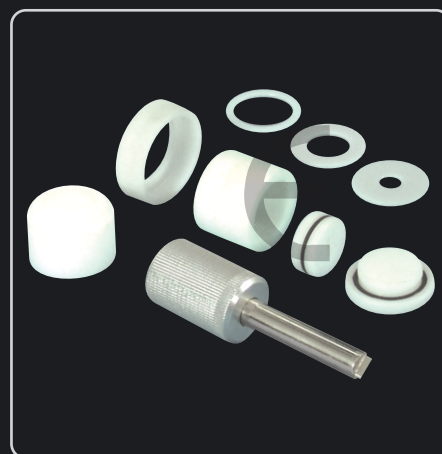
107.9 mm

50.8 mm

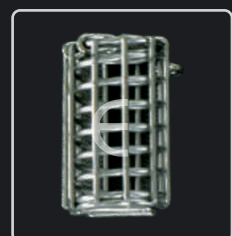
Transdermal cylinder height



Intrinsic attachment



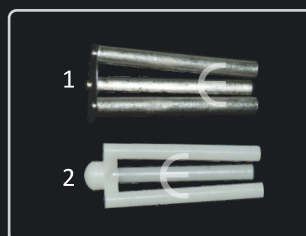
Enhancer cells
(for ointment, suspension & emulsion)



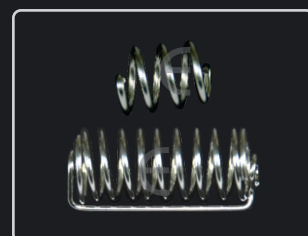
Japanese sinker



sinker



1. 3 prong sinker (SS)
2. 3 prong sinker



Spring type sinker
Big and Small

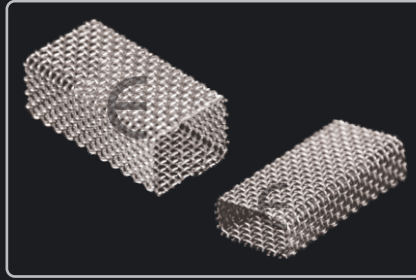
Dissolution Testers



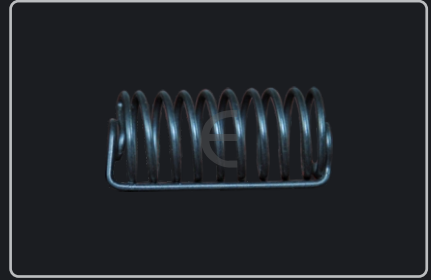
Dissolution Tester Accessories



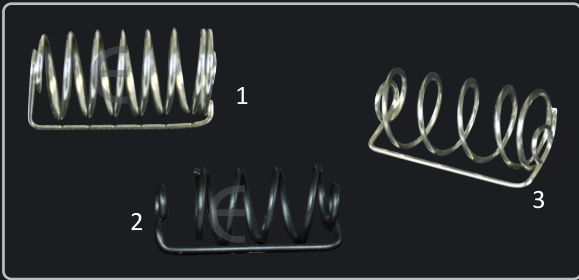
Cage type sinker
Big and small



Metformin sinker
Big and small



Teflon coated sinker
Spring type



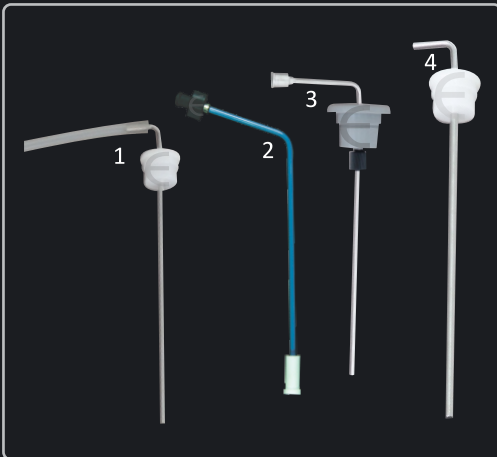
1. Helical coil sinker
(L 2.4 cm D 0.1 cm & GAPS 0.5 cm)
2. Helical coil sinker – Capwht-02
3. Helical coil sinker – Capwht-2S



1. Disposable filters
2. SS filters with holder
3. Disc filter



Digital depth gauge



1. Sampling cannula fixed height
2. Sampling cannula for KoneVessel™
3. Adjustable sampling cannulas for low evaporation jar lid
4. Sampling cannula for (2 ltr) vessel



Validation kit



Vibration meter

Serialised laser marked accessories

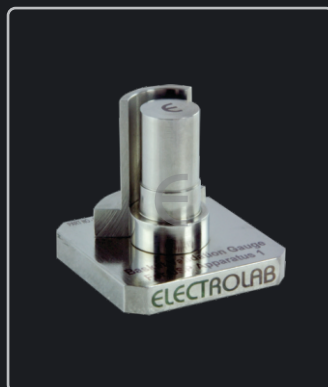
Dissolution Testers



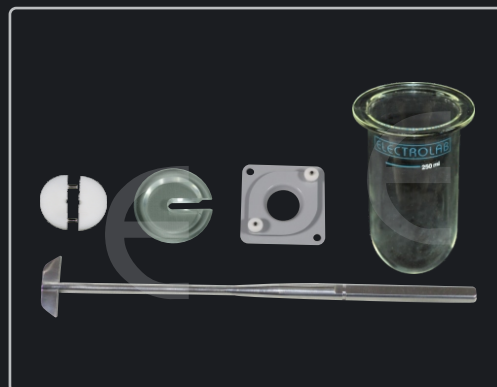
Dissolution Tester Accessories



Mesh integrity microscope



Basket validation gauge



Low volume conversion kit



Dissolution test vessels in glass 100 ml, 250 ml, 1 ltr, 4 ltr capacity and Polycarbonate vessels in 1 ltr capacity. All the above are available in both clear and amber color



KoneVessel™ (1 ltr)
Clear



KoneVessel™ (1 ltr)
Amber

Dissolution Testers



Bottle Rotating Apparatus (ERB-16W)

Water Bath Heating System

CE



ERB-40W
(supporting 40 bottles of 10 ml each)
is also available

Key Features

- Supports up to 16 bottles of 100 ml each
- Magnetically coupled drive and precise speed control from 5 to 50 RPM with soft start facility
- Programmable temperature in the water bath from 30°C to 50°C
- Snap fitting of bottles for easy placement and removal
- Robustly built clear polycarbonate water bath to withstand high temperatures

Air bath Heating System (ERB-40A)



ERB-16A
(supporting 16 bottles of 100 ml each)
is also available

Key Features

- Supports 40 bottles of 10 ml each
- Precise speed control from 5 to 50 RPM with soft start facility
- Forced air heating system with programmable temperature range from 30°C to 50°C
- 24 x 7 continuous operation
- Snap fitting of bottles for easy placement and removal
- Impact resistant clear polycarbonate air bath to withstand high temperatures

Dissolution Media Preparator



21 liter Mobile Media Preparator Unit (EMP-21)

QbD

Quality by Design

CE

21
Ltr.

Media volume



Versatility



User friendly



Reports



No lifting of
media tank



Frothy media handled



Programmable vacuum



Virtually
0
Dead volume



Volume change increment



360° turning radius



Inbuilt cleaning

Key Features

- Deaeration, preheating and precise dosing of dissolution media
- Volumetric dispensing with an accuracy better than $\pm 1\%$ as per USP and Ph. Eur. requirements
- Mobile unit allows media filling in the test vessel within the dissolution bath
- Multifunction single hose for dispensing, aspiration, cleaning, rinsing and drainage
- Ergonomically designed nozzle with embedded dispense switch for ease of operation
- User friendly calibration and validation of media volumes
- Report printout of calibration, validation and dispense cycles
- Batch wise dispensing and stores last 10 batches information of media
- Special nozzle design allows the handling of surfactants like Sodium Lauryl Sulphate (SLS)
- Programmable deaeration time and temperature for effective deaeration of different media
- Maintains media under vacuum at desired temperature while in idle condition
- Easy access for manual cleaning of vessel tank and automatic rinsing and cleaning cycle
- Virtually no dead volume
- Programmable dispensing volumes from 200 ml to 4 ltrs
- Dispensing rate 900 ml/min



2 Station Semi Automatic Park Out (ED-2 SAPO)

CE



Design Patented



Park out



Report



LAN

Key Features

- Complies with USP, IP, Ph. Eur. specifications
- Disintegration time registration of individual tablets
- Basket park-out from beaker
- Unique camless drive
- Moulded bath with fliptop cover
- Print report of test results and validation
- Individual motor and timer with external probe for each basket
- Ergonomically designed & magnetically coupled basket for easy loading & unloading

Disintegration Testers



3 Station Park Out (ED-3PO)

CE



Single Test



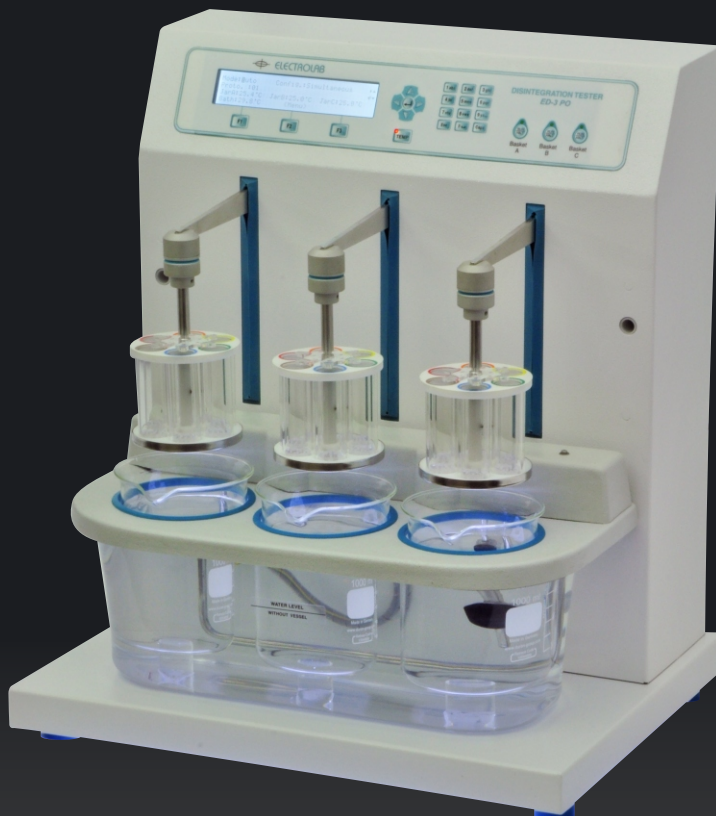
Park out



Report



LAN



Key Features

- Complies with USP, IP, Ph. Eur. specifications
- Basket park-out from beaker
- Unique camless drive
- Print report of test results and validation
- Individual motor and timer with external temperature probes for each basket
- Moulded bath with slide-up cover
- Ergonomically designed and magnetically coupled basket for easy loading & unloading
- LAN connectivity for data transfer to a computer

Disintegration Testers



2 Station (ED-2L & ED-2AL)



ED-2L

2
Station



ED-2AL

With Individual Timer

4 Station With Individual Timer
also available

Key Features

- Complies with USP, IP and Ph. Eur specifications
- Parking of the baskets at the top position at the end of the test with alarm
- Two individual sensors which measures bath temperature and beaker temperature
- Green illumination from bottom for better visibility
- Programmable timer with dual range in min-sec, hrs-min and in continuous mode
- Snap-click™ loading and a swivel free baskets movement
- Maintenance free smooth drive
- Suitable for veterinary tablets and support for bolus basket is also available

Disintegration Testers



6 Station (ED-6AL)

CE

6
Station

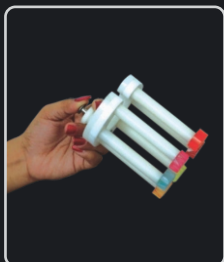


4 Station With Individual Timer
also available

Key Features

- 3 pair of baskets are controlled by independent timer and motor
- Snap click™ loading and swivel free basket movement
- Green illumination for better visibility of disintegration process
- Programmable temperature controller
- Magnetically coupled pump for water circulation in the bath
- Auto parking of the baskets at the top position at the end of the test
- Dual range timer
- Maintenance free smooth drive
- Basket assembly for Isotretinoin capsule analysis (optional)

Accessories



Disc handling device (SAPO)



Magnetic basket (SAPO)



Bolus basket with 3 tubes and guided discs



Bolus basket with 1 tube and guided disc



Basket cover



3 Station (ESDT-3)

CE



Key Features

- The ESDT-3 tests the disintegration time of suppositories as per the latest Ph. Eur. specifications
- 3 independent test stations perform tests simultaneously
- All test cylinders turn 180° automatically every 10 minutes
- Test cylinders turning interval can be programmed from 1 min to 99 min
- Removable thermostat can be programmed to maintain temperature between 30°C to 50°C ($\pm 0.5^\circ\text{C}$) in the bath
- Built in slow water circulation in 12 litres clear Perspex water bath

Friability Testers



Dual Drum with Weighing Scale Interface (EF-2W)



Drums



Snaplock™ mechanism



Operation

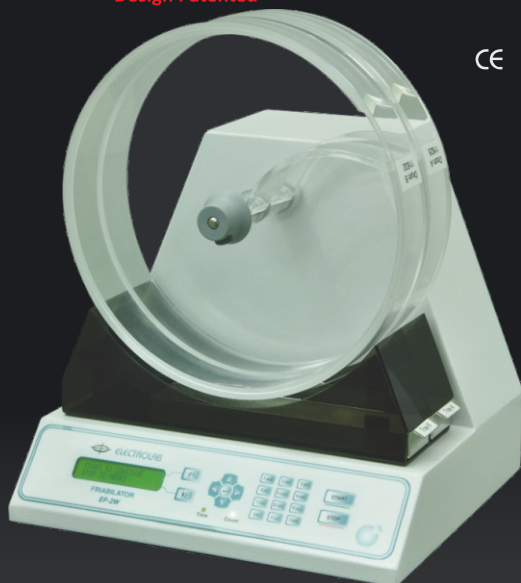


Alphanumeric keypad



Front loading

Design Patented



CE



Tilt



Security with password



Report



LAN (optional)

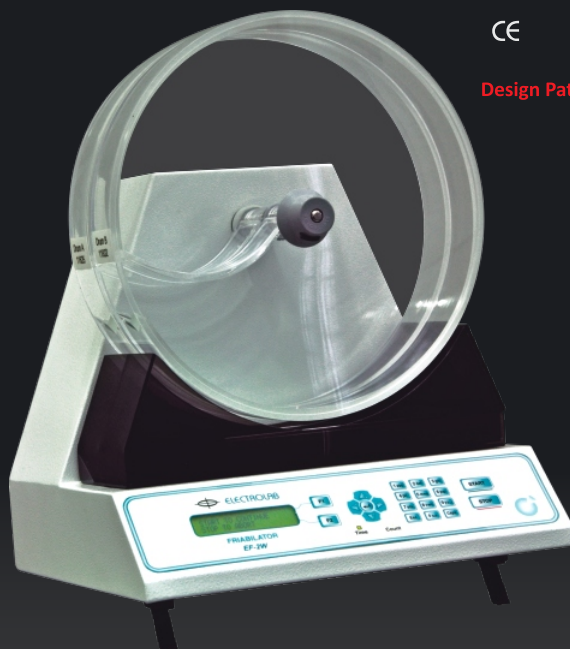


Print

Dual Drum Unit (EF-2)

CE

Design Patented





Dual Drum Friability Testers

- Supports 2 drums with unique interlocking mechanism to ensure correct drum position
- Patented automatic sample discharge
- Loading of samples into the drum without removing the drum
- Unique front loading system of drum
- 10° tilt facility as per USP
- Supports standard and abrasion drum
- Programmable counter and timer
- Results like % friability and weight-loss can be calculated

Key Features of EF-2W

- Variable RPM (20 to 50)
- Alphanumeric keypad to enter the product and sample information
- Stores test protocols for up to 10 different drugs
- User security with password
- Interfaced to Mettler, Sartorius and Contech weighing scales
- Serial port for complete test report printout

Granule Friability Tester (EGF-1)

CE

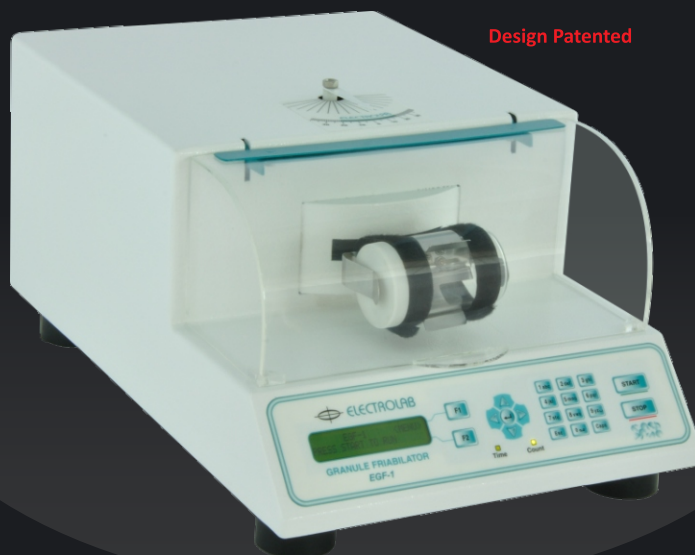
Design Patented



Shaking



Angle



Key Features

- Complies to Ph. Eur. specifications
- Quantifiable friability of hard tablets, granules and pellets
- Bi-directional horizontal shaking action and oscillation at 42° as per USP
- Contains of 105 ml glass container
- Clear acrylic lid with magnetic interlock for safe operation
- Interchangeable glass sample containers for rapid throughput
- Oscillation frequency verification certificate (optional)

2 Parameter Tablet Tester (EBT-2P)

CE



Hardness



Thickness



Print



LAN

Key Features

- Measures hardness and thickness
- Touch screen display
- Up to 100 samples per test
- Electronic load-cell
- Adjustable break between the samples
- Constant force and constant speed measuring principles available as standard 99 monographs
- Programmable calibration and verification modes
- Auto / Manual mode with programmable delay time
- Batch size of 100 with separate programmable sample size for individual parameters
- Plausibility and T1, T2 limits
- Printing (Serial / Ethernet) for data and graph selectable

Optional Accessory :

- **Validation Kit Includes -**
 - 5 kg brass weight
 - 10 mm calibrated gauge block for validation of thickness or 25 mm calibrated gauge block for validation of thickness

Tablet Hardness Testers

Portable Unit (EH-01)

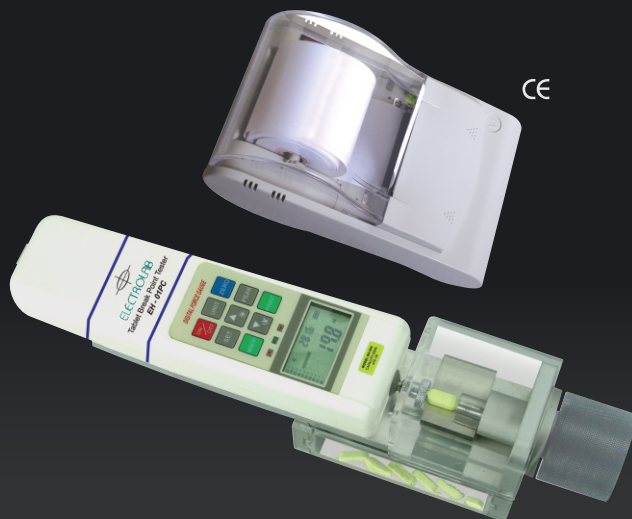
Key Features

- Portable unit
- Tablet hardness measurement by load cell
- Hardness measuring range up to 500 N
- Units of measurement in N, kN, Kg, lbs and oz
- Accuracy of $\pm 0.5\%$ of full scale
- Tablet size - 2 mm to 28 mm
- Battery operated (50 hours of continuous use)



CE

Portable Unit with Printer Connectivity (EH-01P)



CE

Validation kit (optional)

Optional Accessories

- Validation kit
- Printer

Key Features

- Programmable upper (T1) and lower (T2) tolerance limits
- Hardness measurement by load cell up to 500 N
- Display of 10 test value and calculate the average of the memorized value
- Unit of measurement in N, Kgf and lbf
- Accuracy of $\pm 0.5\%$ of full scale
- Tablet size - 2 mm to 28 mm
- Tester operates on rechargeable battery
- PC connectivity through RS 232 port

Electromagnetic Sieve Shaker



16 Sieve Capacity Particle Size Analyzer (EMS-8 Plus)

CE



Tri-dimensional sifting motion



2 Modes of sifting



Low Maintenance



Isolation of vibrations from work surface



Particle size analysis



Programmable amplitude



Programmable sieving duration



Larger LCD



Low noise



User friendly

Key Features

- Ideal for particle size analysis and separation
- Tri-dimensional sifting motion
- Intermittent and continuous sifting motion with programmable amplitude (0.5 mm to 2 mm) in step of 0.1 mm
- Close loop control of amplitude and validation independent of load
- 20 x 4 character alphanumeric LCD
- Very low noise operation with low maintenance
- Programmable shake time from 1 min to 99 min
- iTIME™ (programmable from 10-99 sec) mode for proper sifting of matter
- Suitable for dry and wet sieving
- Capacity up to 8 sieves (200 mm dia x 50 mm h) or up to 16 sieves (100 mm dia x 25 mm h)

Electromagnetic Sieve Shaker

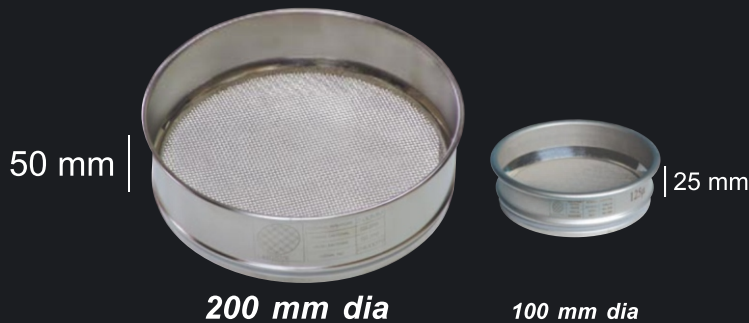
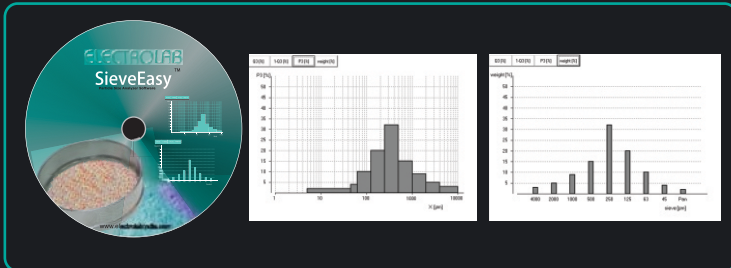


Test Sieve

- Manufactured in accordance with ISO 3310:1-2000 standards
- Entire sieve is manufactured in SS 316
- Inspection and Compliance certificate
- Sturdy joint less rims for a perfect fit
- No cervices to trap sieving material
- Evenly tensioned mesh
- Ergonomically designed-no raw edges, comfortable while handling
- Laser marked serial numbers and specifications
- Mesh is welded-no soldering (lead free)



SieveEasy™ Particle Analyser Software



Test Sieve Sizes		
200 mm dia x 50 mm h and 100 mm dia x 25 mm h		
ISO Nominal Aperture Supplementary		
Sizes R40/3	ASTM E11-01	B. S.S. E11-01
4.00 mm	No. 5	No. 4
3.35 mm	No. 6	No. 5
2.80 mm	No. 7	No. 6
2.36 mm	No. 8	No. 7
2.00 mm	No. 10	No. 8
1.70 mm	No. 12	No. 10
1.40 mm	No. 14	No. 12
1.18 mm	No. 16	No. 14
1.00 mm	No. 18	No. 16
850 µm	No. 20	No. 18
710 µm	No. 25	No. 22
600 µm	No. 30	No. 25
500 µm	No. 35	No. 30
425 µm	No. 40	No. 36
355 µm	No. 45	No. 44
300 µm	No. 50	No. 52
250 µm	No. 60	No. 60
212 µm	No. 70	No. 72
180 µm	No. 80	No. 85
150 µm	No. 100	No. 100
125 µm	No. 120	No. 120
106 µm	No. 140	No. 150
90 µm	No. 170	No. 170
75 µm	No. 200	No. 200
63 µm	No. 230	No. 240
53 µm	No. 270	No. 300
45 µm	No. 325	No. 350
38 µm	-	-
28 µm	-	-

Tap Density Tester



USP 1 and 2 (EDT-1020)



2
Methods

USP Method 1
and USP Method 2



Simultaneous Rotating
and Tapping Motion



User Friendly
Operation



LAN (optional)



Snaplock™
Mechanism



Free Drop of
the Cylinder



Print

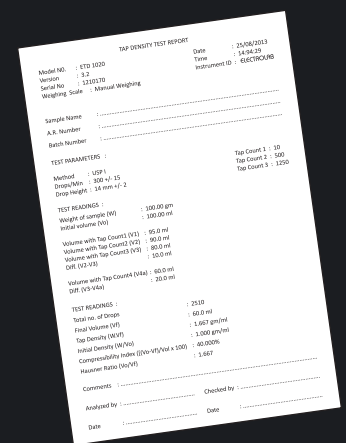


Report

Key Features

- Supports USP 1 (300 taps per min) and USP 2 (250 taps per min) and ASTM test methods
- Simultaneous rotating and tapping motion assures an evenly packed surface
- Calculation of test results like tapped density, compressibility index and Hausner ratio
- Printer port for documenting test results as per GMP/GLP standards
- LAN connectivity for data transfer to a computer

USP 1 (ETD-10) & USP 2 (ETD-20)
is also available

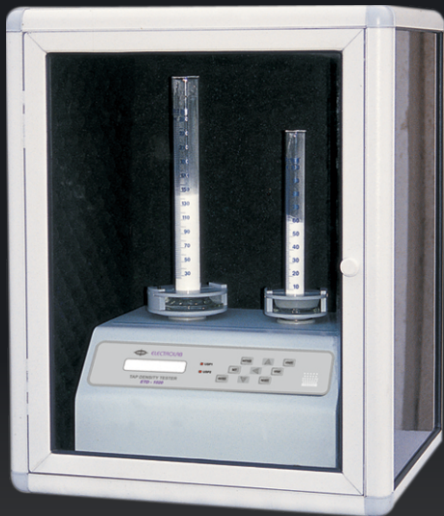


Tap Density Test Report

Tap Density Tester



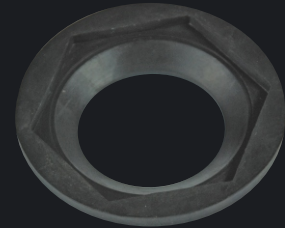
Optional Accessories



CE

Acoustic cabinet

This reduces the sound level to 71 dB to meet laboratory standards



Adapter for 50 ml cylinder



Adapter for 10 ml cylinder

Bulk Density Tester (EV-02)



CE

Design Patented



Compliance



Spatula removes excess powder

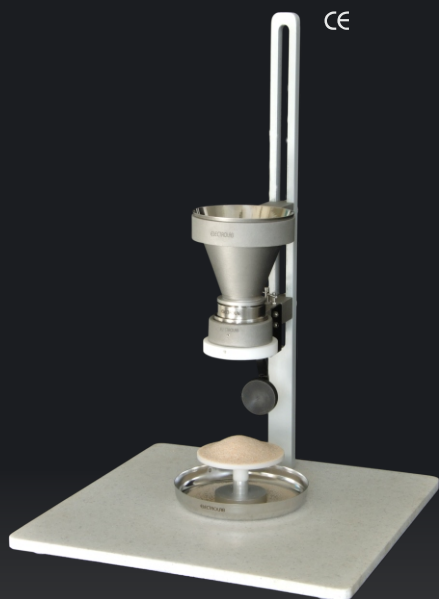
Key Features

- Complies with USP, Ph. Eur. and ASTM specifications
- Measures the bulk density of fine powders and similar products
- Easy calculation of bulk density in terms of grams per ml
- Useful in calculating powder flow-ability index

Powder Flow Tester



Manual Powder Flow Tester (EFT-01)



Key Features

- Complies with Ph. Eur. specifications
- Provides simple, repeatable flow-ability index of powder and granules
- Easy calculation of angle of repose
- Outflow openings - 10 mm, 15 mm and 25 mm as per Ph. Eur. And customized openings are also available

Leak Tester



Methylene Blue Dye Test Method (LT-101P)



Key Features

- Ideal for checking leakage of packed strips, blisters & small sachets
- Meets USP and package practice specifications
- Programmable vacuum level and hold time
- Slow venting for better results
- Validation report printout

Peristaltic Pumps



Variable Speed Series (V Series)

- Variable speed drive
- Contamination free pumping
- Self priming and can safely run
- Positive displacement, no back flow
- Virtually maintenance free
- Easy to install and operate
- Accurate and repeatable flow rates
- Instant start / stop and reverse facility
- Explosion-proof
- 24 x 7 continuous operation



PP-50V



PP-50VX



PP-201V



PP-301V



PP-401V

Explosion Proof Pumps are also available which complies with gas group I, II A & II B as per IS: 2148 / 81 & IP 65 as per IS: 2147 / 62

V Series Models

Parameters	PP-50 V / PP-50 VX	PP-201V	PP-301V	PP-401V
Flow rate (ml/min)	0.2-280*	0.8-1800*	20-4500*	250-20000*
Accuracy(%)	± 1.5	± 1.5	± 1.5	± 2
Tube size (bore)	1 mm to 4 mm	1 mm to 4 mm	8 mm to 12 mm	8 mm to 18 mm
Wall thickness (mm)	1.5	1.5	1.5	3

Precision Dispensing Pump Station (PDP – LCS)



- Long life and maintenance free, maximizing the end user's up-time
- 20 x 4 LCD
- Software driven user friendly menus to program individual channel
- Fine tuning of dispense volume of each channel
- Stepper motor driven for precise dispensing volume and flow rate control
- Quick tube change facility
- Programmable suck back to prevent dripping
- Assuring superior recipe accuracy and maximizing chemical efficiency
- Dispensing by number of revolution counts for accurate fill
- Integrate filling station adapts to wide range of bottle sizes and fill volumes

Peristaltic Pumps



Counter / FCH Series Pumps (PP-201 FCH)



- Programmable fill volume (in terms of counters)
- Programmable suck back to prevent dripping
- Fill by revolution count for better accuracy
- Copy function for repeat fill
- Signals for synchronizing with filing line
- No splashing, bubbles or back flow
- 24 x 7 continuous operation

Cassette Pump (PP-100V)



- Economizes the use of expensive tubing
- Tubing waste is dramatically reduced
- No tools necessary as changing tubing is very easy
- Reduces maintenance time with fast tubing changes
- Variable speed / fixed speed
- Bi-directional (reversible) flow
- Cleanup and priming made easy

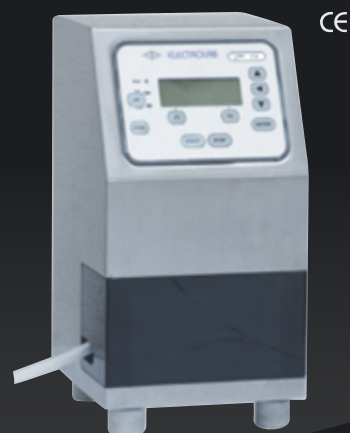
Cascade Head Pump (PP-100 CCD)



snap-fit™ extension pump heads are available

- High performance microprocessor controlled pumps
- Rapid and simple tube loading flip-top pump head
- Zero maintenance with DC stepper motor
- Bi-directional (reversible) flow
- Provision for attachment and detachment of multiple heads

Ceramic Piston Pump (CPP-11V)



- No valves to clog, hang up or service
- Precision dispensing with accuracy better than $\pm 1\%$
- Millions of maintenance free cycles
- Instant reversibility with pump in either direction
- High suction and delivery pressure capability

deconex



deconex 12 basic

Key Features

- Excellent cleaning results supported by GMP cleaning validation
- Effective against a wide range of contaminants
- Residue free cleaning
- Non-Foaming, phosphate free and chlorine free cleaner
- Free from surfactants, easy to rinse off
- Economical to use, environment friendly
- Good material compatibility including stainless steel and glassware
- High pH stability, swelling power
- Used in manual or automated cleaning

Applications

Laboratory	: Chemical residue in glassware
Floor	: Cleans room, production areas, sterile areas
Instruments	: Analytical and medical instruments
Production	: Reaction vessels, fermenters, tanks, tubing, mixers, granulators
Petrochemical	: Heavy oils, grease, distillation residues
Food and Beverages	: Food residues
Breweries	: Malt residues
Dairy	: Milk and allied products
Specialty chemicals	: Paints and varnishes, lime residues
Metals	: Aluminium, zinc and tin residues <i>and many more.....</i>

Centrifuge (KC-3500)

CE



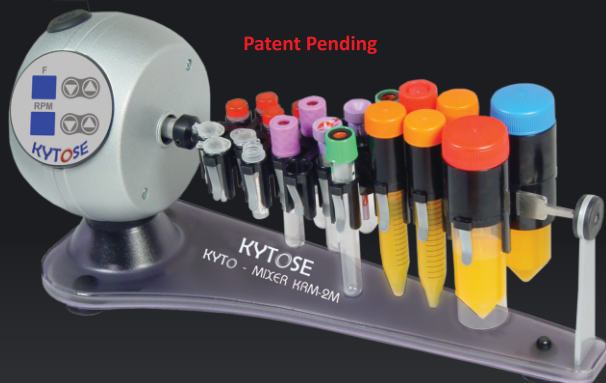
Features

- Laboratory centrifuge with maximal speed up to 3500 RPM (2300G)
- Separate control buttons and displays for time and speed parameters
- User selectable mode between RPM and RCF (G)
- Automatic lid blocker
- Special cooling system allows minimal heating of test tubes
- Unbalance sensor
- Appropriately balanced machine which prevents it from walking across the table even at maximum speed
- Maintenance free brushless DC motor
- Sound alert on rotor stop

KYTO - Mixer (KRM-2M)

(Multiple Tube Rotator, Mixer & Blotter)

CE



- A unique combination of variable speed rotator, mixer and blotter
- Variable rotation speed (1 to 99 RPM)
- 20 different programs of rotation and mixing with 3 user defined custom programs and 4 blotting programs
- A perfect mixing assistant to achieve :
 - Better sensitivity
 - Higher productivity
 - Faster procedure
 - Significant economy
- Onboard memory for storing user settings
- Maintenance free high performance stepper motor
- Standby low energy consumption in sleep mode
- Can be kept in an incubator and refrigerator
- 24 x 7 continuous operation
- Ideal for diagnostic centers, medical, biological and a vast variety of laboratories

Orbital Shaker (KOS-10M)

CE



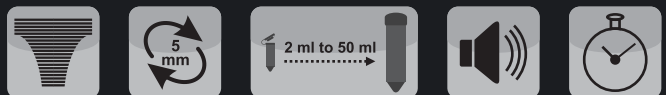
Features

- High precision digital rotation speed controller achieves 10 mm platform rotation amplitude
- Variable platform rotation speed (50 to 500 RPM)
- Advanced stepper motor control system
- Onboard memory for storing user settings
- Digital timer with sound alert on test completion
- Can be kept in an incubator and refrigerator
- Quiet and maintenance free continuous operation

Multi-tube Vortex Shaker (KVS-50)

CE

Patent Pending



Features

- The intelligent vortex shaker has programmable speed up to 3200 RPM for vigorous mixing of capped vessels
- Platform rotation orbit of 5 mm
- Accommodates from 18 tubes (30 mm dia) to 72 tubes (11 mm or 13 mm dia)
- Continuous and intermittent modes of operation
- Programmable automatic switching between continuous and intermittent modes
- Visual and audible alert on test completion
- Ideal for biochemical assays, resuspending pellets, vortexing cell suspensions and liquid-liquid extractions

Our Products

- Complete Range of Dissolution Testers • Dissolution Media Preparator • Disintegration Testers • Friability Testers
- Tablet Hardness Testers • Electromagnetic Sieve Shakers • Tap Density Tester • Bulk Density Tester
- Powder Flow Tester • Leak Tester • Peristaltic Pumps



The information contained in this document is believed to be correct but ELECTROLAB accepts no liability for any errors and reserves the right to alter specifications without notice
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