



Innovation, Service, Science

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TDS-1012

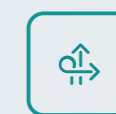
AUTOMATED TRANSDERMAL DIFFUSION SYSTEM



Stable



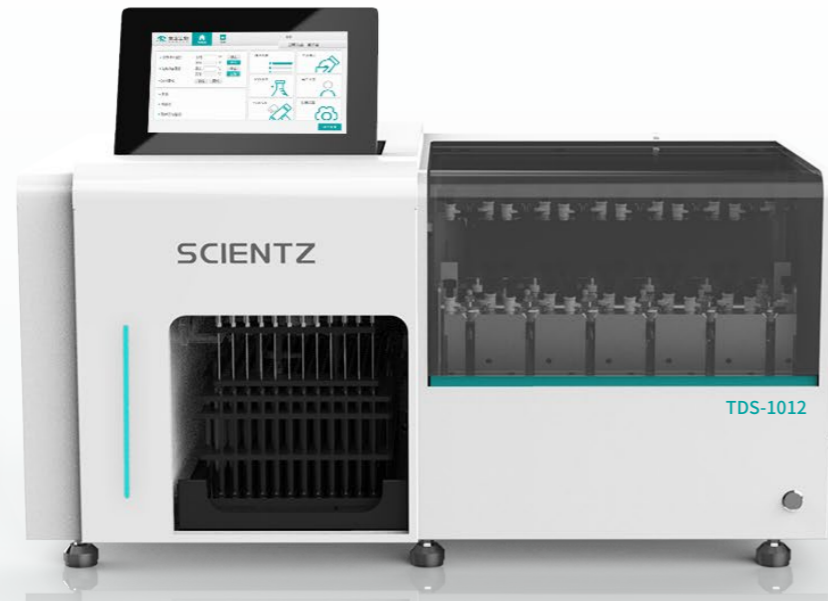
Safe



Efficient



宁波新芝生物科技股份有限公司
NINGBO SCIENTZ BIOTECHNOLOGY CO., LTD



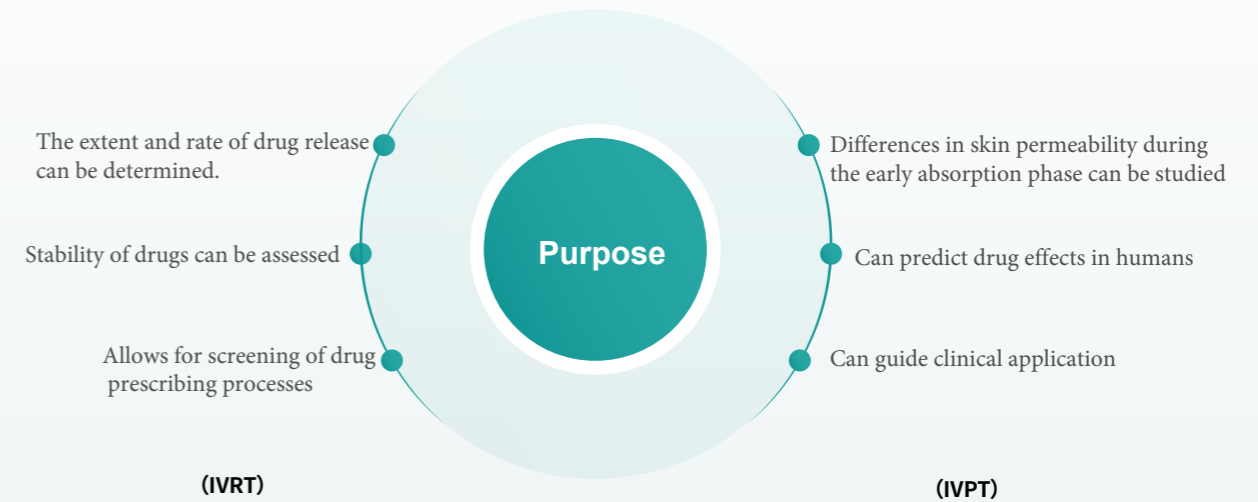
○ Background

The instrument is mainly used for in vitro release test and in vitro transdermal test of semi-solid preparation.

Semi-solid preparation is a kind of topical preparation that acts on the skin to exert local or systemic therapeutic effects, and the dosage forms include ointment, cream, gel and so on. It has the advantages of avoiding the influence of acidic environment and gastrointestinal mucus in the stomach after oral administration; reducing the peaks and valleys of blood concentration, thus reducing the adverse reactions of drugs, etc.; it can act directly on the target site to play a pharmacological role; reducing the number of times of drug administration, and the patient can independently use the drug, and the drug compliance is higher; in the use of the process, such as the occurrence of adverse reactions, can be interrupted at any time to give the drug.



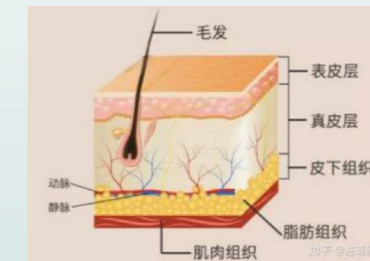
In vitro drug release test and in vitro transdermal test are important means to evaluate the drug release behavior of semi-solid formulations, to improve drug formulation and to predict drug effects.



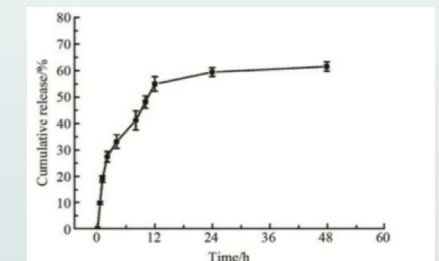
In vitro transdermal drug release assay procedure



1. Drugs are applied to artificial membranes or biofilms for drug release



2. The drug passes through the skin by osmosis and diffusion
3. Activation of the desired pharmacological action and realization of the drug's effects



4. Maintains a certain drug concentration in the target tissue for a certain period of time to provide stable therapeutic effects



Meets International Standards

Comply with the performance test requirements of USP<1724> standard, strictly control the supply cell, orifice diameter and receiving cell volume size error.



Automatic Intelligent Controls

With fixed-point, timed, quantitative automatic sampling equipment, can help customers do automatically complete the sample sampling, sample collection, media back to fill the experimental process.



Convenient And Flexible Operation

12 independent vertical diffusion cells, can meet the dual 6-cell application scenario, each reaction cell can be independently controlled to receive media in and out



24 hours Online Service

We could provide Online instruction; Real-time support by call or voice-chat. During warranty time, we can send product

○ Features



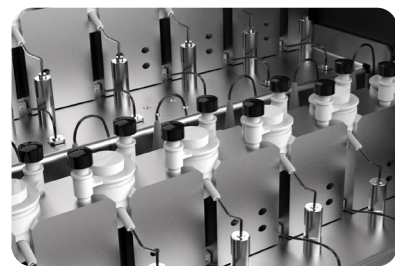
Penetration Cup

Good heat transfer
Performance and construction
in accordance with
USP<1724> requirements.



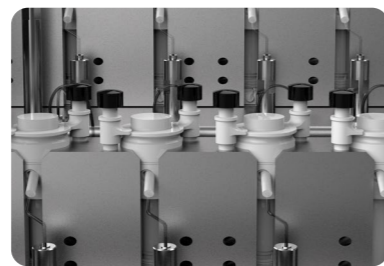
Bubble Free

Ensure that the
membrane is in full
contact with the
receiving medium for
a long period of time.



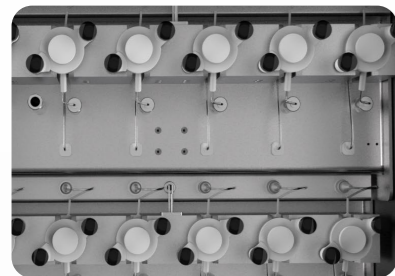
Dry Heating Method

Dry heating method for even
temperature , precise
controlling ($\pm 0.2\text{ }^{\circ}\text{C}$)



Vessel Cover

Designed to ensure
constant temperature and
protect media from light,
reducing evaporation.



12-Cell Design

Different temperatures and
stirring speeds can be set
to meet the needs of both test
and reference formulations.



Multisize

Provide 1mm, 2mm, 3mm, 5mm
dosing ring, flexible control of the
dose.



Multi-Specification Rotors

Flexible change of diffusion
cell volume with different rotor
volumes.



Ergonomic Design

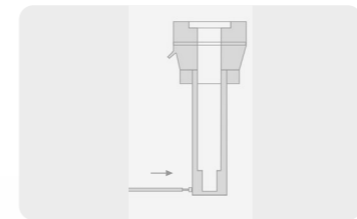
10-inch touch screen control
Screen angle can be flexibly
adjusted.

○ Features



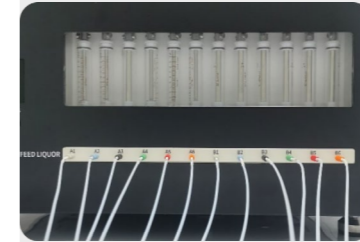
High Precision Syringe Pumps

High-precision imported syringe pump,
automatic positioning to achieve fast
and accurate sampling, sampling error
 $\leq 0.08\text{ml}$.



Automatic Fluid Replenishment

Automatic isothermal rehydration during
the experiment can avoid the effect of
temperature fluctuation on the release or
transdermal.



12 Cells

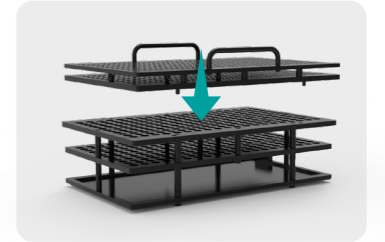
12 cells for independent media channels,
can realize the same kind of drugs,
different media comparison experiments;
can realize the full-throughput sampling.

仪器清洗



Automatic Cleaning

Automatic cleaning and emptying of
the diffusion cell and piping system
at the end of the experiment.



2-in-1 Sample Rack

2-in-1 sample racks for both tubes
and liquid phase vials.

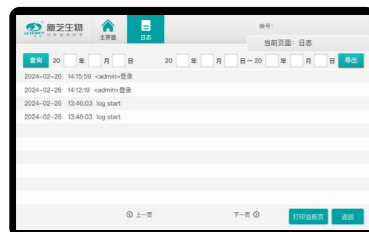


Sampling Frame Monitoring

Sample rack reminder function
to avoid misplacing and omitting.

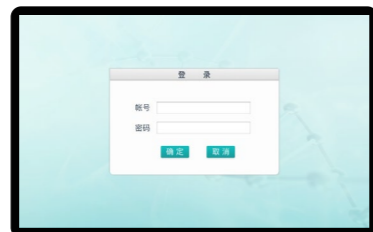


○ Software Features



Paperless Management:

Supports log query viewing
Supports local printing and history log query.



Multi-account Login:

Four levels of administrative privileges to control access and block unnecessary instrumentation or method changes.



Program Import:

Supports import and export functions to realize method program sharing between the same devices.

○ Main Technical Parameters

Number Of Diffusion Cells	12	Number Of Samples Taken	20times
Diffusion Cell Heating Range	RT.~45.0°C	Input Power	220Vac±10% 50/60Hz 10A
Temperature Resolution	0.1°C	Power	500W
Temperature Control Accuracy	±0.2°C	Dimension	975mm*580mm*470mm
Rotation Speed Range	10-1000rpm	Weight	102Kg
RPM Resolution	0.1 rpm	Operating Temp.	10~30°C
Rotation Speed Accuracy	±0.5 rpm	Storage Temperature	-20~60°C
Sampling Accuracy	≤0.08mL	Operating Humidity	20~80%RH
Sampling Volume	0.1mL~10mL	Storage Humidity	5~95%RH

RT means 15°C~25°C room temperature.

○ Accessories

Standard

TDS-1012 inlet tube assembly	TDS-1012 sample rack	operation manual
TDS-1012 drain tube assembly	tube 10mL 13mm*130mm	2mm dosing ring
TDS-1012 see-through window	silicone mat	
TDS-1012 0.5ml rotor assembly	power cable	

Options/Supplies

TDS-1012 3.5ml rotor assembly	1mm dosing ring
TDS-1012 4.5ml rotor assembly	3mm dosing ring
TDS-1012 5.5ml rotor assembly	5mm dosing ring
TDS-1012 6.5ml rotor assembly	
TDS-1012 7.5ml rotor assembly	

○ Degassing solutions (Degassing rate up to 80% or more)



Intelligent Interaction:

Support intelligent voice announcement function

PC view log function



RTD-2010



RTD-3000