



> RT6 General Dissolution System



ES France - Département Bio-tests & Industries
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 90
Fax. 01 47 01 16 22



e-mail : bio@es-france.com
Site Web : www.es-france.com

Model Configuration



RT600 8 Position Manual Sampling
Dissolution Apparatus



RT612 12 Position Manual Sampling
Dissolution Apparatus



RT600-ST 8 Position Automatic
Sampling Dissolution System



RT612-ST 12 Position Automatic
Sampling Dissolution System



RT600-UV UV Online Automatic
Detection Dissolution System



Smart Type-Dissolution Monitoring
Video System



RT6 General Dissolution System



The mechanical performance parameters of the Raytor RT6 series dissolution apparatus fully meet the requirements of domestic and foreign regulations and standards such as: Chinese Pharmacopoeia, Guidelines for Mechanical Qualification of Drug Dissolution Apparatus, US Pharmacopoeia, FDA DPA-LOP.002, ASTM E2503-07, USP Toolkit, ICH Guidelines and so on.

Raytor RT6 series dissolution apparatus can meet the following experimental test requirements by replacing different device components:

- Basket Method
- Paddle Method
- Mini Vessel Method
- Paddle over Disk Method
- Dissolution Cylinder Method
- Immersion Cell Method
- Stationary Tablet Basket Method
- Customized Parts for Special Methods



Innovative Design

- With the automatic preheating function of medium, the instrument can be set to automatically start constant temperature water bath heating at the specified time.
- Powder / particle automatic dosing module is optional, to realize automatic synchronous dosing of powder / particle preparation.

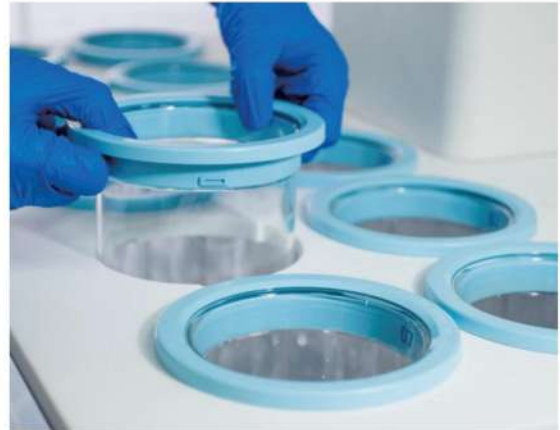
Sampling

- Automatically and accurately locate sampling needle according to dissolution method and medium volume.
- Non-resident sampling needle which can reduce the disturbance flow in the medium during dissolution test.
- Automatic sampling: Automatic dissolution sampling method can be set up. When the sampling time is reached, the sampling needle will automatically low down and sample.
- Manual Sampling: Sampling through a reserved sampling port. Or sampling through an automatic positioning sampling needle.



Innovative Design of Dissolution Vessel

- Raytor design innovative collar incorporated onto the vessel which can be more durable.
- Align the three convex buckles of the vessel with the concave position of the base hole and put in it, rotate the vessel clockwise by 30 degrees. The installation can be completed quickly and accurately.



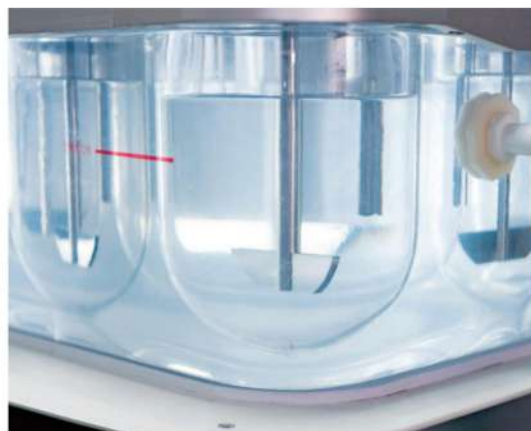
Patent Design of Propeller Basket Coaxial

- Coaxial split dissolution parts can be adapted to basket method, paddle method, mini vessel method, paddle over disk method, cylinder method and immersion cell method.
- It is not necessary to readjust the height of dissolution unit after switching dissolution method.
- The connection is located above the medium surface, easy to clean and no risk of residue.



Water Bath Design

- Integrated forming design with round corner, no dead angle in water circulation. Excellent ability of constant temperature in water bath.
- No cleaning dead corner, water bath can be thoroughly drained.
- The water circulating heating system is located behind the water bath isolated from other parts and eliminates the vibration impact.



Automatic Synchronous Dosing

- Eliminate the time difference of dosing, and the time point of dosing can be tracked.
- Sampling time is automatically timed. Before reaching the sampling time, there will be a reminder ringing.



RT6-ST Smart Type Automatic Sampling Dissolution System



" More innovation and intelligence " has always been the goal of Raytor Instruments, and RT6-ST smart type automatic sampling dissolution system can fully reflect the core concept of this intelligent innovation. Based on the existing technology accumulation, the RT6-ST series further optimized the user experience. For the further, RT6-ST series has also been endowed with more intelligent innovative designs.

The RT6-ST series includes: RT600-ST 8 position Automatic Sampling Dissolution System, RT612-ST 12 position Automatic Sampling Dissolution System. It can also be equipped with Raytor Electronic Data Cloud System and Dissolution Monitoring Video System.





Accurate Sampling

High-precision sampling pump, which can effectively provide accurate and precise sampling.

Sampling pipelines and circuits are embellish washed before sampling to ensure more accurate sample concentration.

After sampling, the residual liquid in the pipeline will be purged and emptied, so that the sampling volume is more accurate and there is no sample residue.

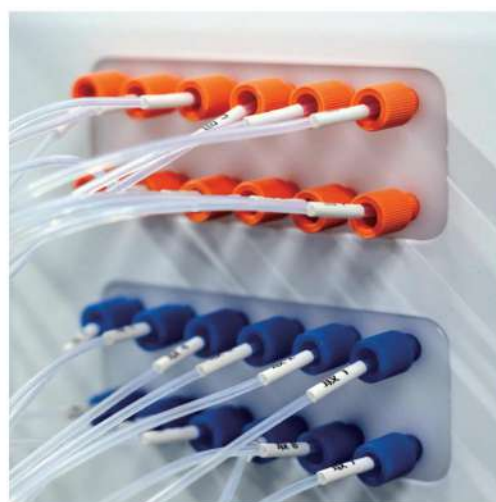


Pipeline System

Teflon pipeline system with high chemical stability and high anti-adsorption was used to avoid corrosion of sampling pipeline or sample adsorption.

The completely independent sampling pipeline of each channel can effectively avoid cross contamination of sample solution.

Automatically repairing the medium and cleaning the pipeline.





Automatic Online Filtering

Dual on-line filters can be installed, and the instrument can automatically discharge the primary filtrate to saturate the filter.

More online filtering schemes are supported, such as sample injection probe front-end filtering, pump front filtering or customized filtering schemes.



Automatic Sample Collection

The 180 position sample rack for 1.5mL liquid vial and the optimized sampling system can directly collect the sample solution into the liquid vial .

Optimized sample injection probe, lower residue and more corrosion resistance. And it can directly inject the sample solution into the LC vial with the pre cut cap.





Innovative Design

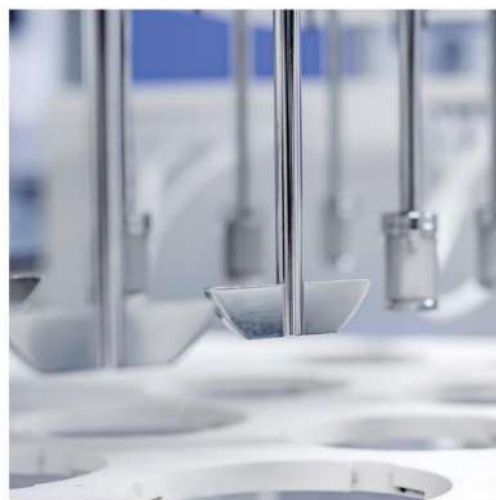
Support the automatic experiment of changing medium during dissolution. The time point, volume and stirring speed after medium replacement can be set. The sampling probe will automatically locate to the correct sampling position according to the change of medium volume after medium replacement.



Intelligent Customization

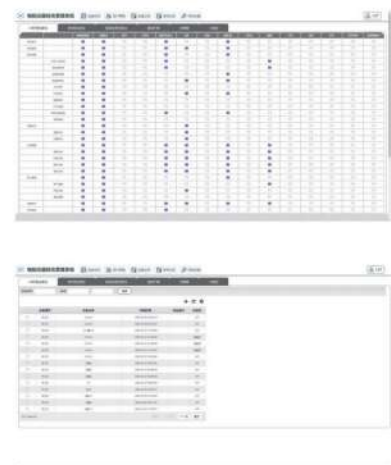
Smart dual speed mode is optional, the rotational speed of the 6 shafts on the right and left of the 12 vessel dissolution apparatus can be set respectively.

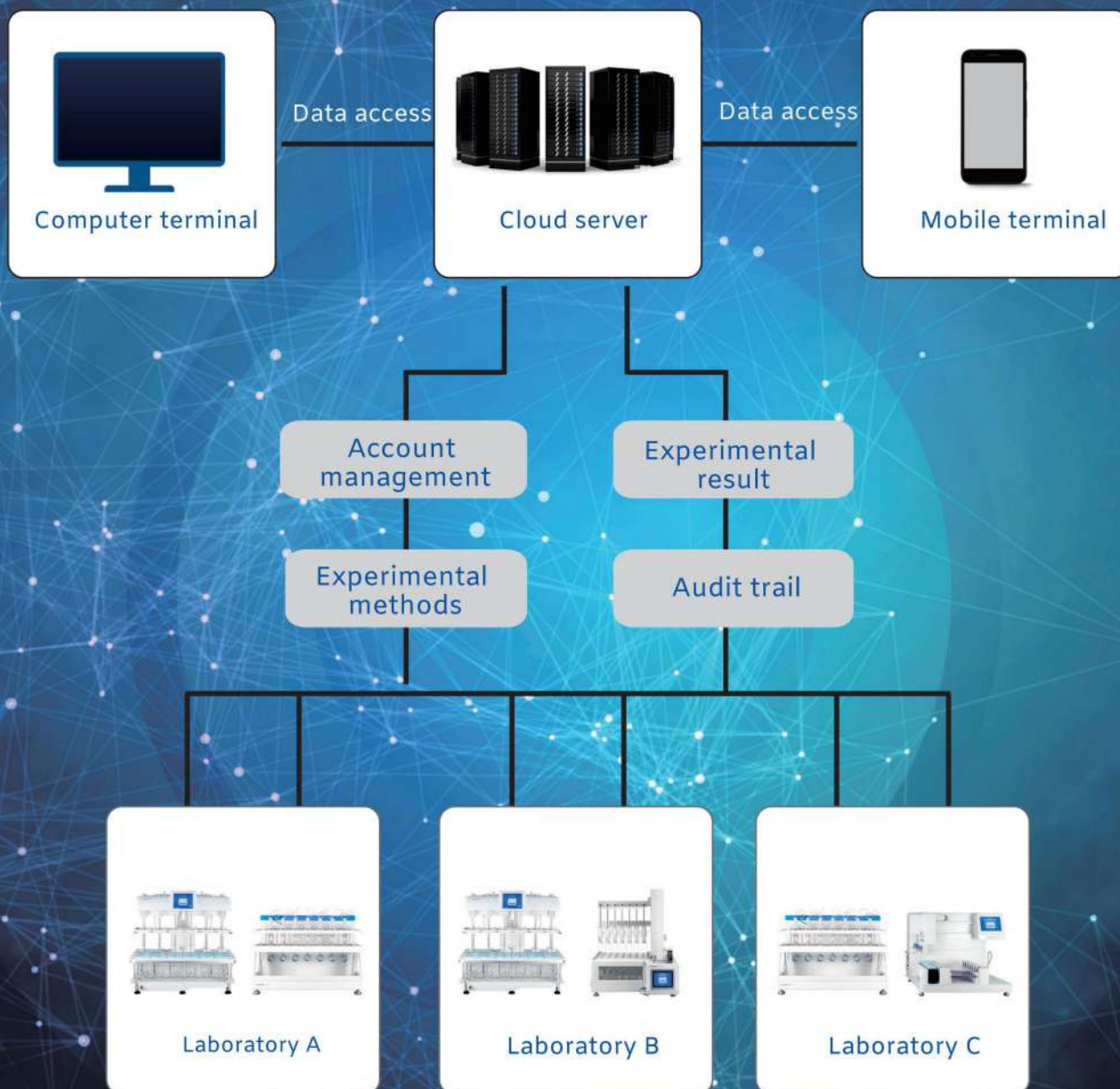
Powder / particle automatic dosing module is optional, to realize the automatic and synchronous dosing of powder / particle.



RT6-ST Smart Type•Raytor Electronic Data Cloud System

- Raytor cloud system can connect at least 250 different types of experimental instruments at the same time. For example, RT6-ST dissolution system can be interconnected with flow-through cell dissolution system, reciprocating cylinder dissolution system, drug transdermal diffusion system, etc, to realize real intelligent management.
- The server will automatically back up the experimental records and audit trails in each experimental instruments, and can export or print them through the server.
- The running status of all currently networked experimental instruments can be monitored through the server.
- User management and permission setting can be performed through the server. Support multiple users to login to the server system at the same time.
- Raytor cloud system can be upgraded or customized according to customer needs.





RT6-ST

Smart Type-Dissolution Monitoring Video System



- Applicable models: RT600-ST, RT612-ST.
- HD macro camera.
- Number of surveillance cameras: 8 / 16 / 32.
- Memory capacity (optional) : 1TB / 2TB / 4TB / 6TB / 8TB.
- Support the export of video files in MP4 format.



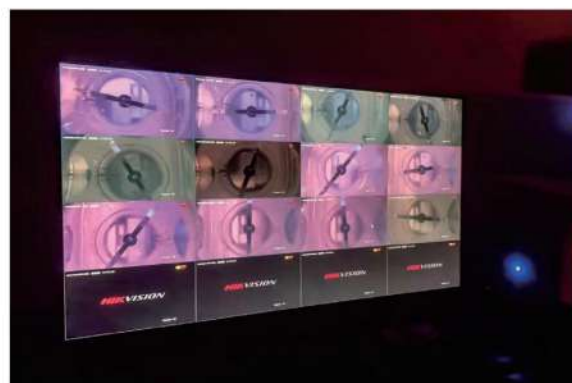
The high-definition macro camera can be installed at the bottom and side of the dissolution vessel. Furtherly, Raytor Instruments provides a camera installation scheme at the top of the basket to realize the omnidirectional monitoring of drug dissolution.



Support a monitoring host to connect multiple RT6-ST systems to realize parallel monitoring of multiple machines. The monitoring system collects sample dissolution videos in the form of continuous video to ensure that the experiment process is covered.



In order to monitor the dissolution of photosensitive samples, Raytor provides a solution for dissolution video monitoring in a dark environment. It also supports more customized services for dissolution video system.



RT600-UV

Dissolution UV-online Automatic Detection System



Raytor Dissolution UV-online Automatic Detection System (RT600-UV) is the latest product of Raytor Instruments based on the third generation dissolution operating system. RT600-UV system includes Automatic Dissolution Apparatus Sampling Workstation and Ultraviolet-Visible Spectrophotometer. RT600-UV supports automatic dissolution sampling and on-line ultraviolet detection. It is more convenient for users to develop drugs and routine detection, and greatly improve work efficiency.

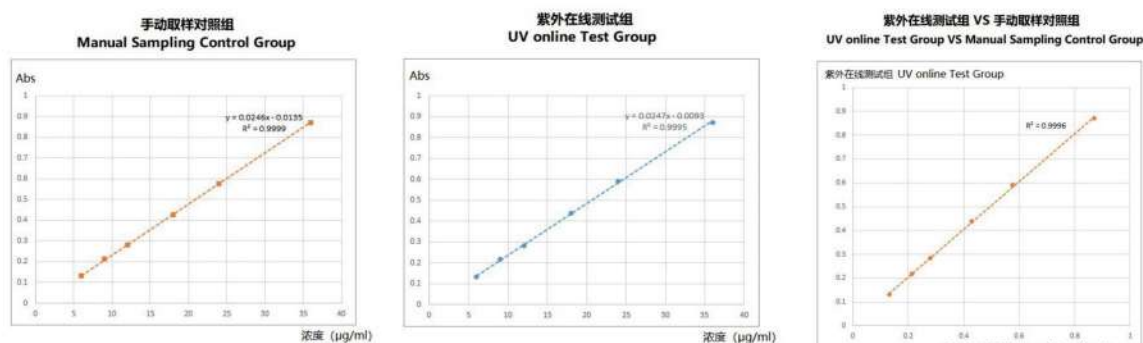
Automatic dissolution apparatus, automatic sampling workstation and the ultraviolet-visible spectrophotometer are controlled by the same dissolution operating system in the automatic dissolution apparatus. It supports the preset and invokes the on-line ultraviolet automatic detection method for dissolution. The dissolution system will automatically complete the automatic dissolution sampling and the automatic on-line ultraviolet detection according to the preset method. The test results are fed back to the interface of the dissolution operating system in realtime, and the protected electronic data documents are automatically generated in realtime.



Accuracy

Continuous detect the absorbance of salicylic acid solution with different concentration by manual sampling and UV on-line respectively. Linear regression curves were established with salicylic acid concentration as X-axis and absorbance as Y-axis, and calculate the R-square values of each curve.

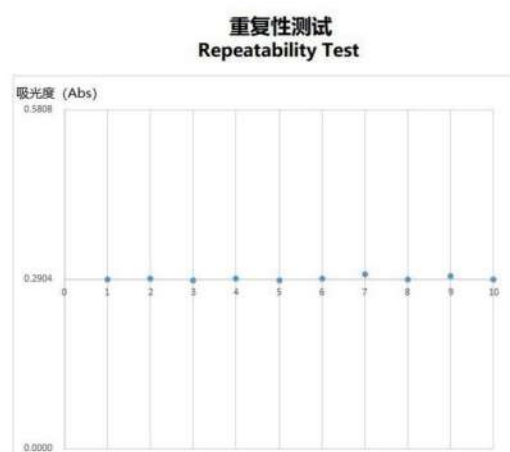
- The results of UV on-line test showed excellent linear correlation, R-square value was 0.9995, and there was no significant difference with the manual sampling control group.
- Linear regression curves were established with the absorbance of the manual sampling control group as X-axis and the absorbance of UV-online test group as Y-axis. The R-square value was 0.9996. The results show that Raytor Dissolution UV-online Automatic Detection System has excellent accuracy.



Repeatability

Perform 10 consecutive on-line sampling for the same concentration of sample solution and detect the absorbance by Raytor Dissolution UV-online Automatic Detection System after each sampling.

- The relative standard deviation (RSD) of 10 UV-online test results was $< 2.0\%$.
- The difference between the average absorbance of UV-online test group and manual sampling control group was $< 2\%$.



RT6 Series Dissolution Accessories

Dissolution Vessel

The size and specifications of 1L dissolution vessel meet the requirements of pharmacopoeia.



Dissolution Basket

The size and specifications meet the requirements of the Pharmacopoeia and are suitable for all standard dissolution apparatus. Material: 316L stainless steel; Mesh: 40 meshes, 100 meshes.



Dissolution Paddle

The size and specifications meet the requirements of the Pharmacopoeia and are suitable for all standard dissolution apparatus. Material: 316L stainless steel; Teflon (PTFE) anti-corrosion coating can be customized.



Dissolution Sinkers

The size and specifications meet the requirements of the Pharmacopoeia and are suitable for all standard dissolution apparatus. Material: 316L stainless steel.



Paddle over Disk Apparatus(Method 1)

Meets the requirements of method 1 of the dissolution 4th method (paddle over disk) of Chinese Pharmacopoeia.

Material: 316L stainless steel; Outer diameter: 92mm.



Paddle over Disk Apparatus(Method 2)

Meets the technical requirements in Chinese Pharmacopoeia < 0931 >, US Pharmacopoeia and European Pharmacopoeia. Material: 316L stainless steel; Outer diameter: 41.2mm.



Dissolution Cylinder

The size and specifications meet the requirements of the Pharmacopoeia and are suitable for all standard dissolution apparatus. Material: 316L stainless steel.



Stationary Tablet Basket

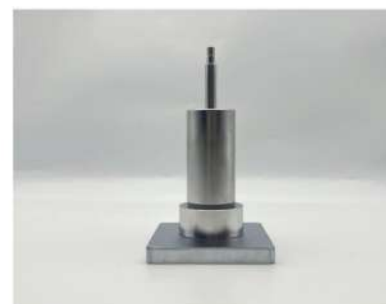
The size and specifications meets the requirements of the US Pharmacopoeia (USP) for stationary tablet basket.

Material: 316L stainless steel.



Intrinsic Dissolution Apparatus

The size meets the requirements of the US Pharmacopoeia < USP1087 > for intrinsic dissolution. Material: 316 stainless steel and hardened steel.



RT6 Series Dissolution Accessories

Sampling Filter Element

The cylindrical sampling filter element is installed at the sampling needle of the dissolution apparatus.

Specification of sampling filter element: 10 μ m、30 μ m、 50 μ m.



Dissolution Accessories Drying Display Rack

Suitable for drying, storage and display of dissolution stirring paddle, dissolution basket, basket shaft and manual sampling needle.



Dissolution Paddle

The mini vessel and related accessories is applicable to Raytor dissolution apparatus, and meet the requirements of the third method (mini vessel method) in Chinese Pharmacopoeia 0931 < Dissolution and Release Determination > . Accessories include: (1) Precision mini vessel, material: glass. (2) Dissolution Vessel Fixing Parts. (3) Precision paddle for mini vessel method, material: 316L stainless steel.



Immersion Cell Apparatus

Raytor immersion cell apparatus meets the requirements of USP < 1724 > Semisolid Drug Products Performance Tests. It is suitable for in vitro release test of semi-solid preparations.

The immersion cell apparatus mainly includes the following accessories: Immersion Cell, Flat Bottom Dissolution Vessel, Dissolution Vessel Adapter Ring, Mini Paddle, Auxiliary Tools.

Raytor immersion tank device can fully adapt RT600 / RT612 series dissolution apparatus through dissolution vessel adapter ring. The mini paddle adopts coaxial split design, which can be installed by screwing it into the master shaft of the dissolution apparatus without repositioning the paddle height.



Technical Parameter

General Dissolution System	Setting Range: 20-250 RPM
	Resolution: 0.01 RPM
	Steady Speed Error: $<\pm 0.3$ RPM
	Temperature Accuracy: $<\pm 0.2$ °C
	Temperature Resolution: 0.01 °C
Automatic Sampling Workstation	Maximum Settable Sample Number: 20
	Sampling Range: 1 ~ 20ml
	Minimum Sampling Interval: 2 minutes
	Maximum Working Time: 720 hours
Operating System	Sampling Precision: Error $\leq \pm 0.1$ mL
	The functions meet the requirements of FDA 21 CFR Part 11. Include: account password, authority management, data management, audit tracking, data backup, etc.

The information, instructions, and technical parameters in this article are subject to change without prior notice.



Choose Raytor and calmly face the challenges of dissolution testing

Service and Support:
Reduce the potential impact of
dissolution process

Arrange our experienced and professionally
trained engineers to provide you with
instrument installation, software and
hardware training, and complete
qualification services.

We can assist in meeting your
needs in the following areas:

- Instrument repair and maintenance
- Application experiment solution
- Training services



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Site Web : www.es-france.com

Make Scientific Experiments Easier

Raytor Instruments Co., Ltd

Tel: +86 400-0755-234

E-mail: sales@raytor.cn

Web: <http://en.raytor.cn/>

Address: 2nd Floor, Building 11, Nangang Second Industrial
Park, 1026 Songbai Road, Nanshan District, Shenzhen



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