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**TIANGEN Catalogue
Instruments**



**Instrument
Platform**

- Convenient Series
- Automation Series



All processes from raw material input to comprehensive control of finished product are strictly controlled under the EN ISO 13485 and ISO 9001 certified by TÜV

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TIANGEN Introduction



” TIANGEN, a leading biotechnology company in China, provides customized molecular biology reagents and professional technical services to customers in the life science research field. Our comprehensive product portfolio includes Nucleic acid purification products, PCR series reagents (including regular PCR, RT-PCR and Real time PCR), NGS library preps, NGS service, as well as lab regular instruments. TIANGEN maintains the “Customer First” philosophy and is dedicated to a continuous improvement in quality to fulfill our promise of best-in-class products and services.



100,000-Class
GMP standard clean workshop



Everyday
Researchers are applying
200,000 rxns of
TIANGEN Products



More than
80,000 paper published
using TIANGEN products

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Convenient Series

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Overall Solution of TIANGEN Instruments

Sample Pretreatment



TGrunder Y50 Handheld Homogenizer



TGrunder H24 Tissue Homogenizer



TGrunder H24R Tissue Homogenizer

Regular Instruments



TGear Mini Centrifuge



TGear Plate Centrifuge



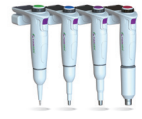
TGyrate Vortex Basic



TGyrate Master Vortex

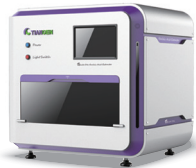


TGrade Lite Dry Bath Incubator



TGet Electronic Pipette

High Throughput Extractors



TGuide S96 Automated Nucleic Acid Extractor



TGuide S32 Automated Nucleic Acid Extractor



TGuide S16 Nucleic Acid Extractor

Reaction System



TGreat Expert Thermal Cycler

Detection of Nucleic Acid and Protein



TGreen Transilluminator

TGrinder Y50 Handheld Homogenizer

—A lightweight and convenient practical tissue grinder

Cat.no.	Package
OSE-Y50	pcs

Description

In contrast to the traditional nitrogen grinding for RNA/DNA extraction, TGrinder can grind 1-100 mg of tissue samples efficiently in a 1.5 ml centrifuge tube. The crushing is sufficient, the effect of homogenization is good, and the loss of samples during operation is reduced. With a small size, light weight and a low power consumption, this grinder is widely used for grinding, crushing and homogenizing animal tissue samples such as brain, heart, lung, stomach, liver, thymus, kidney, intestine, lymph node and muscle, and plant tissue samples such as root, stem, leaf, flower, fruit and seed.

The OSE-Y50 has a built-in brushless motor to drive the grinding pestle, with a speed regulation function, which can flexibly handle various sample types.



Instrument Schematic Diagram



1.5 ml/15 ml Metal Grinding Pestle

Features

- Plastic and metal grinding pestles are available for various animal and plant materials.
- Easy to use and equipped with a sterilized box of grinding pestles that can be loaded by direct insertion.
- The removal box can be used to unload the pestle with one press, which is convenient to operate and avoids contamination.

Product Packaging

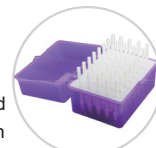
Suit Composition	Catalog Number	Quantity
Handheld Homogenizer		1
Third generation metal grinding pestle	OSE-Y002	2
Pestle removal box	OSE-Y003	1
Grinding pestle box (including 40 plastic grinding pestles)	OSE-Y004	1 box

Technical Parameters

Catalog number	OSE-Y50
Product Name	TGrinder Y50 Handheld Homogenizer
Rotational Speed	0-12000 rpm
Rated Voltage	12V power adapter
Noise	<65 dB
Compatibility with 15 ml Metal Grinding Pestle	Yes

Aseptic design

An easy to use box of grinding pestles is provided, in which sterilization can be carried out, and the pestles are placed in the box in the ready to use direction.



A variety of accessories

The grinder is equipped with plastic and metal grinding pestles, which can be used for various animal and plant materials.



Portable toolbox

All accessories can be easily carried.



One-press pestle removal to avoid contamination.

A collection box is provided. When the pestle is inserted into the removal hole and pressed gently, the grinding pestle will fall off automatically into the collection box, which avoids environment and sample contamination.



Animal tissue (muscle / viscera / tumor, etc.)

Microorganisms (fungi / bacteria)



Plant tissue (root / stem / leaf / flower / fruit / seed)

TGrinder H24 Tissue Homogenizer

—Strong-power experimental grinder with high throughput and high efficiency

Cat.no.	Package
OSE-TH-01	Set

Description

TGrinder H24 Tissue Homogenizer adopts a three-dimensional high-speed vibration mode and is capable to simultaneously process 1-24 independent grinding tubes. TGrinder H24 can effectively grind, break and homogenize different types of biological samples (such as plant tissue, animal tissue, soil and feces, etc.) through grinding media (zirconia beads, stainless steel beads, ceramic beads and glass beads, etc.). By applying different reagents, DNA with good integrity can be extracted from samples quickly and stably.



Features

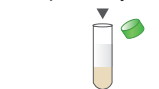
- Three-dimensional motion mode: The grinding homogenization force is 2-5 times larger than that of the traditional instruments, and the grinding homogenization is with high speed and efficiency.
- Circular sample holder design: Uniform grinding effect with no cross contamination.
- Special structure and noise reduction design: The instrument parts are not easy to wear off, and the running noise is reduced to ensure a better user experience.
- Automatic protection device: When the protective cover is not closed, the instrument can not start or emergency brake can be activated., so as to protect the safety of laboratory personnel.

Certification

CE IVD (for in vitro diagnostic use)

Experimental Procedure

Sample and lysis buffer



1. Prepare grinding tubes



2. Homogenization by TGrinder H24



3. High-speed centrifugation



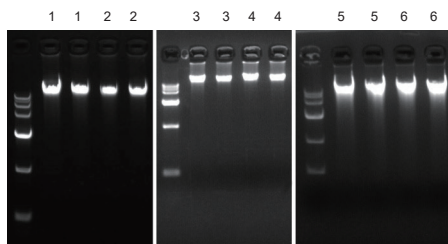
4. Transfer supernatant to a new tube

Operating Parameters

Motion Mode	3D ∞ route
Motor Speed	2430~4260 rpm
Vibration Force	4.00~7.00 m/s, 0.05 m/s increments
Temp Range	Room temperature
Throughput	24×2 ml grinding tube (standard), 12×5 ml grinding tube (optional)
Running Time/ Pause Time/Cycle Number	1~90 sec/1~120 sec/1~10 cycles
Sample Holder	Circular
Dimensions (W×D×H)	280×360×385 mm
Weight	25 KG
Power Adapter	AC 100~240V, 50~60 Hz

Experimental Example

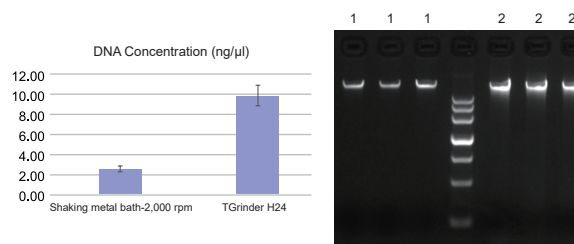
Grinding and Homogenization of Animal/Plant Tissue Samples and Genomic DNA Extraction



1. Manual liquid nitrogen grinding, rat liver; 2. TGrinder H24, rat liver;
3. Manual liquid nitrogen grinding, rat heart; 4. TGrinder H24, rat heart;
5. Manual liquid nitrogen grinding, wheat leaf; 6. TGrinder H24, wheat leaf.

The genomic DNA of 20 mg animal tissue and 10 mg plant tissue were extracted after prepared by liquid nitrogen grinding and TGrinder H24 grinding and homogenizing respectively. The yield of genomic DNA of the samples was basically equal.

Grinding and Homogenization of Soil Samples and Genomic DNA Extraction



1: Shaking metal bath; 2: TGrinder H24.

The genomic DNA of 0.25 g soil samples was extracted after prepared by shaking metal bath and TGrinder H24 respectively.

The yield of genomic DNA by TGrinder H24 was significantly higher, and the pretreatment time of samples was significantly lower (shaking metal bath-2000 rpm 10 min, TGrinder H24-6 m/s 30 sec 2 cycles).

TGrinder H24R Tissue Homogenizer

—Efficient cryo-homogenizer, preserves molecular integrity perfectly.

Cat.no.	Package
OSE-TH-02	Set

Description

The TGrinder H24R Tissue Homogenizer uses a three-dimensional, high-speed vibration mode to process 1~24 individual samples simultaneously. The built-in compressor allows the cooling function without use of liquid nitrogen, which effectively prevents the degradation or denaturation of heat sensitive molecules. The top lid scroll fan design ensures temperature uniformity within the chamber. The grinding media (zirconia beads, stainless steel beads, ceramic beads, glass beads, etc.) can be used to effectively grind, lyse and homogenize different types of biological samples (e.g., plant tissue, animal tissue, soil and feces, etc.) with different reagents for rapid and stable extraction of DNA/RNA/protein from samples while preserving the molecular integrity.

Features

- Sample throughput: grind 1~24 samples at the same time. Large throughput. High efficiency.
- Motion mode: 3D ∞ vibration mode, more thorough homogenization.
- Fast grinding: 30~60 sec protocol to homogenize samples.
- Grinding effect: high strength, uniform effect, no cross-contamination.
- Low noise and durability: no wearing parts, low noise.
- Cooling function: down to -10°C. The low temperature environment effectively prevents nucleic acid degradation and protein denaturation.
- Safe and reliable: lid lock design and automatic brake mechanism .
- Preinstalled program: complete solutions for different samples.

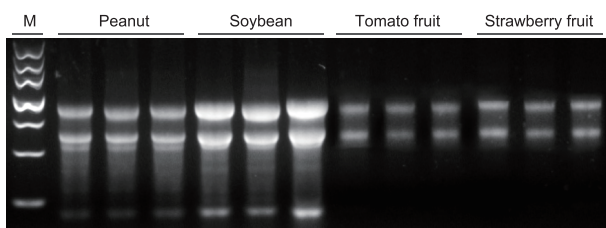


Certification

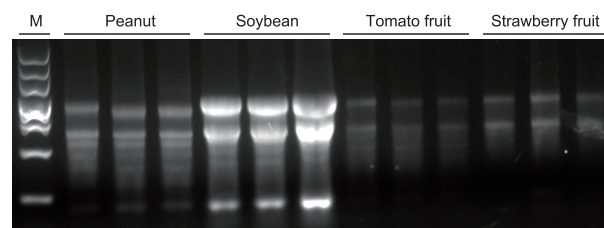
CE IVD (for in vitro diagnostic use)

Experimental Example

Plant Sample RNA Extraction (Homogenized by TGrinder H24R)



Plant Sample RNA Extraction (Manually Ground in Liquid Nitrogen)



Sample input: 100mg.

Conclusion: The concentration, purity and integrity of RNA extracted when using the TGrinder H24R Tissue Homogenizer (Figure 1) were better than that by manual liquid nitrogen grinding (Figure 2).

Marker: DNA MarkerIII (TIANGEN, MD103-02)

RNA Extraction Kit: TIANGEN RNA Easy Fast Plant Tissue Kit

Operating Parameters

Motion Mode	3D ∞ route
Motor Speed	2430~4260 rpm
Vibration Force	4.00~7.00 m/s, 0.05 m/s increments
Temp Range	-10~-40°C
Throughput	24×2 ml grinding tube (standard), 12×5 ml grinding tube (optional)
Running Time/ Pause Time/Cycle Number	1~90 sec/1~120 sec/1~10 cycles
Sample Holder	Circular
Dimensions (W×D×H)	330×520×400 mm
Weight	40 KG
Power Adapter	AC 100~240V, 50~60 Hz

TGyrate Mini Vortex

—Powerful and efficient vortex mixer

Cat.no.	Package
OSE-VX-03	Set

Description

The TGyrate Mini Vortex Mixer is a mini mixer that uses eccentric rotation to create a vortex of liquid in the tube to mix the sample. It can be used for mixing samples in various sizes of centrifuge tubes. The Mini Vortex Mixer is equipped with a brushless DC motor for long service life and low noise, and a direct driven motor for high vortex force, allowing for fast sample mixing.

Features

- High vortex strength: 3000 rpm, fast mixing
- DC brushless motor: long service life
- Triangular silicone head top: durable and replaceable
- Silicone foot pad: runs at maximum speed without displacement
- Low noise



Operating Parameters

Catalog Number	OSE-VX-03
Movement Mode	Approximate circular motion
Circulation Diameter	4.5 mm
Rotation Speed	3000 rpm
Operation Mode	Touch
Replaceable Accessories	Silicone adapter
Motor	DC brushless motor
Maximum Load Capacity	0.1 kg
Operating Ambient Temperature	5~40°C
Ambient Humidity (Relative)	80%
60529 Protection Class	IP42 (only if the instrument is fitted with a fixture)
Input Power	DC 12 V 1.5 A
Motor Output Power	7.5 W
External Dimensions (W × D × H)	97×97×81 mm
Weight	0.8 kg

TGyrate Vortex Basic

—Simple, practical, stable and durable

Cat.no.	Package
OSE-VX-01	Set

Description

TGyrate Vortex Basic is a small-sized mixer that adopts eccentric rotation to make the liquid in containers such as test tubes generate vortex, thus fully mixing samples. The instrument can be used for mixing samples in containers such as centrifuge tubes, test tubes, flasks, etc. Direct current brushless motor is selected for long service life and low noise. The instrument adopts the directly driven motor, which can generate strong vortex force, and the liquid can be quickly and evenly mixed. The standard rotary head is made of highly abrasion-resistant rubber material. The simple silica gel foot pad ensures the stability of the instrument during high-speed operation. It is easy to operate, and the two working modes—touch and continuous modes can meet different experimental requirements.

Features

- Stable: The machine can keep stable when running at 3,000 rpm without any displacement.
- Low noise: Less than 60 db.
- Durable: Special durable rubber is selected for the vortex head, with no falling chips.
- Efficient: The highest rotating speed is reached within 2 sec. Strong vortex force, which can swirl 40 ml liquid within 5 sec.



Operating Parameters

Working Mode	Touch/Continuous Mode
Vibration Mode	Circumference
Amplitude	6 mm
Speed Range	0-3,000 rpm
Speed Regulation Mode	Knob scale speed regulation
Power Adapter	DC12 V, 3 A, 50/60 Hz
Dimension (W×H×D)	107 mm×146 mm×166 mm
Net Weight	3 kg
Protection Level	IP21

Optional Accessories

Product Name	Cat.no.	Product Icon
Standard Top	OSE-VX-B001	
Universal Top	OSE-VX-B002	
Microtiter Plate (used with B002)	OSE-VX-B003	
Erlenmeyer Flask 100-250 ml (used with B002)	OSE-VX-B004	
1.5/2.0 ml Tube Top (used with B002)	OSE-VX-B005	
15 ml Tube Top (used with B002)	OSE-VX-B006	
Flat Top	OSE-VX-B007	

TGyrate Master Vortex

— Perfect performance for vortex mixing

Cat.no.	Package
OSE-VX-02	Set

Description

TGyrate Master Vortex (Digital Display Version) is a multi-sample mixer that adopts eccentric rotation to make the liquid in containers such as test tubes generate vortex, thus fully mixing samples. The instrument can be used for mixing samples in containers such as test tubes, centrifuge tubes, microtiter plates, etc. This machine adopts the directly-driven induction frequency conversion motor with no belt loss parts, ensuring a long service life and low noise. It has strong vortex force with the amplitude 4.5 mm, which can realize rapid mixing of liquid. There are two working modes, i.e. touch and continuous, and a variety of clamps can be selected to meet the experimental requirements. The metal body, balance weight design and unique guide rail structure ensure the uniform and stable operation of the instrument.

Features





- Efficient: Strong vortex force, which can realize rapid and uniform mixing of liquid.
- Stable: The balance blocks and guide rail structure ensure the steady of the machine.
- Low noise.
- Wide application: A variety of blocks are available.
- Simple and fast: Digital display, knob stepless speed regulation.
- Working mode: Touch/Continuous.






Operating Parameters

Model	OSE-VX-02
Working Mode	Touch/Continuous Mode
Vibration Mode	Circumference
Amplitude	4.5 mm
Maximum Load	1.5 kg
Speed Setting Range	200-3000 rpm
Time Setting Range	1-999 min or 1-999 sec
Speed Regulation Mode	Knob stepless speed regulation
Power Adapter	DC 24 V/2 A, 50/60 Hz
Input Power	20 W
Output Power	15 W
Dimension	210 mm×150 mm×69 mm
Net Weight	4 kg
Protection Level	IP21

Standard Accessories

Product Name	Cat.no.	Product Icon
Standard Top	OSE-VX-M110	
Microtiter Plate Top	OSE-VX-M130	
1.5/2.0 ml Adapter	OSE-VX-M131	
15 ml Adapter	OSE-VX-M133	

Optional Accessories

Product Name	Cat.no.	Product Icon
5 ml Adapter (with M130)	OSE-VX-M132	
Circular Top (with M141)	OSE-VX-M140	
Circular Foam Adapter (use with M140)	OSE-VX-M141	

TGrade Lite Dry Bath Incubator

—Thoughtful design, simple operation

Cat.no.	Package
OSE-DB-05 (heating)	Set
OSE-DB-06 (cooling)	Set

Description

TGrade Lite Dry Bath Incubator is a single-stage program-controlled dry bath incubator. The heating bath can be maintained at the specified temperature from room temperature to 105°C. There are 4 shortcut temperature keys, which are 42°C, 56°C, 65°C and 95°C and the temperature can be quickly set with one key; the cooling bath can be maintained at the specified temperature from -10°C to 105°C (to reach -10°C, the ambient temperature needs to be below 15°C). There are 4 shortcut temperature keys, which are 4°C, 16°C, 56°C and 95°C, and the temperature can be quickly set with one key.



Features

- Shortcut key design, one key for quick temperature setting.
- Accurate temperature control and rapid temperature change.
- Blocks can be combined freely to meet the temperature control requirements for different consumables at the same time.
- Fashionable design, exquisite experience.

Operating Parameters

Model	OSE-DB-05	OSE-DB-06
Range of Temperature Setting	5°C~105°C	-10°C~105°C
Range of Temperature Control	Room temperature +5°C~105°C	Room temperature -25°C~105°C
Shortcut Key Temperature	42°C, 56°C, 65°C, 95°C	4°C, 16°C, 56°C, 95°C
Time Setting Range	1 min-99 hr 59 min or ∞	
Time of Temperature Rise	≤ 15 min (from room temperature to 105°C)	
Time of Temperature Fall	≤ 30 min (from 105°C to room temperature)	≤ 15 min (from 105°C to room temperature)
Temperature Stability at 105°C	<±0.5°C	
Maximum Temperature Difference of 40°C Module	<±0.3°C	
Input Power	24V, 5A	
Product Weight	1.1 kg	1.9 kg

Flexible Combination of Multiple Metal Bath Block Series

Aluminum block type	24-well 0.2 ml	12-well 0.5 ml	6-well 1.5 ml	6-well 2.0 ml	6-well 15 ml	3-well 50 ml	96-well 0.2 ml
Model	OSE-Q0.2	OSE-Q0.5	OSE-Q1.5	OSE-Q2.0	OSE-H15	OSE-H50	OSE-P96H

TGear Mini Centrifuge

—Highly efficient experimental assistant with all in one rotor design

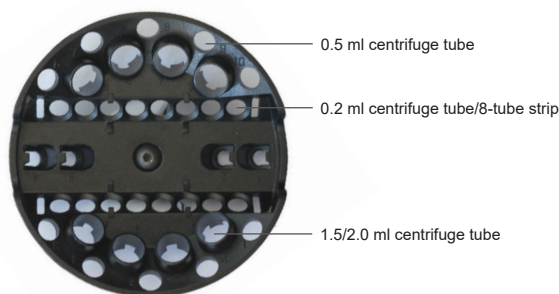
Cat.no.	Package
OSE-MC8	Set

Description

TGear Mini Centrifuge is a mini short-spin centrifuge suitable for various types of centrifuge tubes. It is suitable for the centrifugation before PCR experiment, and other molecular biological experiments such as rapid sample precipitation, separation of supernatant from various samples, separation of serum from whole blood as well as the separation of blood cells of trace amount.

Features

- All-in-one rotor, no need to replace the rotor when using centrifuge tubes with different volumes.
- Mute technology ensures low noise.
- The bottom weighting design ensures no displacement.
- Durable, safe and reliable.
- Powerful high speed: The 8,000 rpm high speed motor and larger centrifugal angle speed can achieve fast centrifugation.
- Sufficient space, which makes it convenient to put and take out centrifuge tubes.



Operating Parameters

No-load Speed	8,000 rpm
Compatible	8×1.5 ml/2 ml/, 10×0.5 ml or 16×0.2 m tubes
Dimension (W×H×D)	183 mm×151 mm×153 mm
Weight	1.8 kg
Power Adapter	AC 100-240 V, 50-60 Hz

Important Notes

- Please use centrifuge tubes of the same specification and containing the same volume of liquid to assure the balance before running the instrument.
- Do not touch the rotor or move the machine until the rotor has completely stopped.
- The machine should be placed on a horizontal and sturdy workbench.

TGear Plate Centrifuge

—Mini short-spin centrifuge specific for microplates/8-tube strips

Cat.no.	Package
OSE-MP25	Set

Description

TGear Plate Centrifuge is a mini short-spin centrifuge specially designed for 8-tube strip/96-well plate/384-well plate. The liquid drops hanging on the side wall of the micro-well plates can be centrifuged instantly and the liquid can be mixed evenly. The product design relies on the principle that small amount of liquid can remain on the of the bottom of the micro-well plate by surface tense, so as to avoid the leakage of liquid from the plate after centrifugation. TGear Plate Centrifuge can be widely used for the pulse-spin of the PCR/qPCR samples.

Features

- Simple operation: Simply load the microplate vertically from the slot at the top of the centrifuge.
- Wide application: Applicable to various standard PCR microplates with and without skirts, and can also be used in conjunction with the unique 8-tube strip fixing device of TIANGEN, which can centrifuge several 8-tube strips simultaneously.
- Strong power: The brushless motor can accelerate to 2,800 rpm instantaneously to ensure effective centrifuging and mixing of the wall hanging droplets to the bottom of the tube.
- User friendly: Two operation modes of instantaneous and timing are configured to make the experiment more convenient and efficient. The cover can be opened to 95° angle to facilitate access to and placement of microplates.
- Quiet, stable and low noise: Noise is less than 75 decibels, providing a comfortable laboratory environment.
- Unique design, small in size.



The special 8-tube strip fixing device (OSE-PS)



Important Notes

- Please ensure that the sealing surface of the microplate faces the middle of the rotor and the bottom of the plate faces the outside of the rotor.
- Please use microplates with the same brand, specification and containing same volume of liquid to confirm the balance before running the machine.
- Do not touch the rotor or move the instrument until the rotor is completely stopped.
- Do not apply unsealed microplates, or it will risk liquid leaking.
- The machine should be placed on a horizontal and sturdy workbench.

Operating Parameters

Capacity	2×96 PCR microplates
Rotate Speed	2800 rpm
Rotor	Vertical fixing
Dimension	219 mm×190 mm×186 mm
Weight	2.1 kg
Power Adapter	DC 24 V, 3 A

TGet Electronic Pipette

—One-hand operation, extremely accurate

Cat.no.	Package
OSE-EP-01	pcs
OSE-EP-02	pcs
OSE-EP-03	pcs
OSE-EP-04	pcs
OSE-EP-05	Set

Description

TGet Electronic Pipette can automatically transfer liquid based on the principle of air piston replacement. It can reduce the risk of manual pipetting error, and is capable of performing the functions which manual pipette can't achieve, such as multiple dispensation and measurement of liquid with unknown volume, making it an ideal pipette in the laboratory. It is easy to operate, with the ergonomic design and a flexible knob to quickly set the pipetting parameters. The 1.44-inch color screen clearly displays all kinds of pipetting information. Various pipetting combination modes can be quickly changed by the simplified menu and the adjustment knob.



Features

- High accuracy: The step motor accurately controls the piston stroke. The piston has passed the infrared inspection to ensure the consistent precision.
- Stable and reliable: Automatic calibration before pipetting to ensure the reproducibility of the experiments.
- Powerful functions: Four basic pipetting modes, with adjustment knob, to realize fast and flexible combination pipetting.
- Comfortable to use: Ergonomically designed handle and finger press, easy to hang on the hand and free from hand strain.
- Simple operation: Users can quickly master the pipetting skills without the need to select from multi-level menu.
- Durable: Stainless steel nozzle and other special materials ensure stable and reliable quality.

Operating Parameters

Model	OSE-EP-01	OSE-EP-02	OSE-EP-03	OSE-EP-04	OSE-EP-05
Range (μl)	0.5-20	5-200	50-1000	100-5000	A set of OSE-EP-01, OSE-EP-02, OSE-EP-03, OSE-EP-04 and a Pipette Linear Stand (Cat. no. OSE-EP-A01).
Plunger Bottom Color	Green	Blue	Purple	Red	
Increment (μl)	0.1	0.5	1.0	10.0	
Pipetting Speed	Three gears to be adjusted, which are expandable				
Pipetting Mode	Four basic pipetting modes, which can be combined freely				

Introduction of Basic Functions

Basic Mode	Optimized Function
Manual Pipetting	Continuously perform aspiration and dispensation, and the pipetting volume can be easily measured.
Automated Pipetting	Automatically control the volume of aspiration and dispensation. Perform rapid aspiration and dispensation of equal or unequal aliquots.
Multiple Aspiration	One-time aspiration of equal or unequal volumes of different liquid, and transfer as mixture.
Multiple Dispensation	Dispense a solution in a sequence of multiple equal or unequal aliquots. The dispensing times can be recorded automatically.

TGreat Expert Thermal Cycler

—New generation, powerful functions and accurate temperature control

Cat.no.	Package
OSE-GP-03	Set

Description

The TGreat Expert is a new generation gradient thermal cycler of powerful functions and high performance. It adopts a 10.1-inch capacitive touch screen, simple and intuitive operation interface, precise temperature control performance, stable operation and produces excellent and reliable results, which can meet a variety of PCR experimental needs.

Superior temperature control:

- The maximum temperature rise rate is 5°C/s.
- The temperature rise and fall speed is 0.1-5°C/s adjustable.
- Optional temperature control mode.
- Uniform temperature control, stable and reliable.

Simple operation interface:

- 10.1-inch full color capacitive touch screen.
- 12 preset programs to quickly complete program setting.
- Support program modification during operation.
- The main interface displays the operation status of the instrument.

Hot cover design:

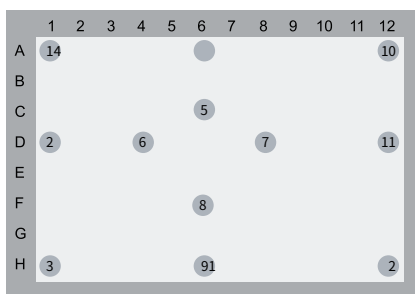
- Self-adaptive pressure hot cover.
- Close and tighten the cover in one step.
- Operation indicator light indicates the status of the instrument.
- Hot cover temperature 30°C-115°C.

User-friendly design:

- Built-in T_m value calculator and 12-column well temperature simulator.
- WiFi: monitor PCR instrument and email reminder through APP.
- GLP operation report to facilitate the operation of traceability program.
- The program can be encrypted without being modified at will.

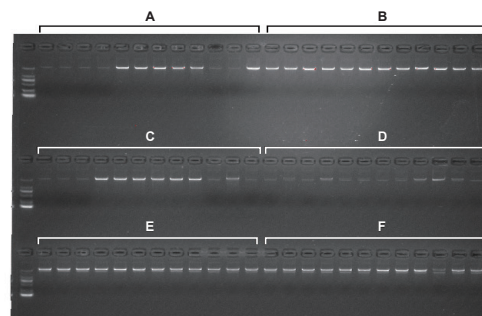
Experimental Example

Temperature Uniformity Test Selected Well Position



Twelve well positions were selected for 1.5 Kb fragment amplification by Touchdown PCR to verify the temperature uniformity between wells of several gradient PCR instruments. The PCR product was loaded on gel in order 1-12 from left to right.

Temperature Uniformity Test Result

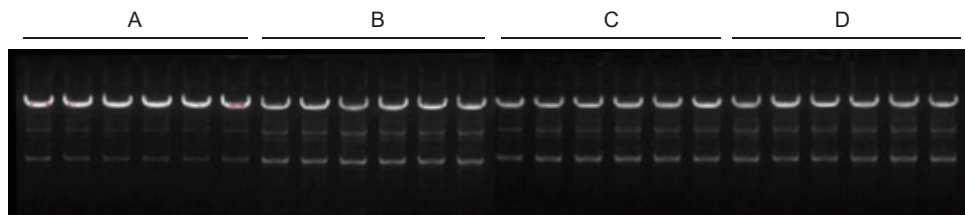


Test result: TGreat Expert produced bright bands, 100% amplification detection rate and uniform bands in all wells, indicating the excellent performance in temperature control accuracy and temperature uniformity across different wells.

- A: Brand A B: TGreat Expert
- C: Brand C D: Brand D
- E: Brand E F: Brand F

PCR Amplification of 8288 bp Long Segment

PCR Experiment Example (8288 bp)



A: TGreat expert; B: Brand B; C: Brand C; D: Brand D



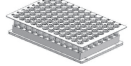

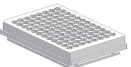
The results of electrophoresis showed that the long bands produced by TGreat Expert were uniform, and the unspecific bands were weak. The specificity performance of TGreat Expert was relatively good. The bands in the same group were uniform among the wells, and the temperature control accuracy and temperature uniformity were excellent.

Operating Parameters

Product Name	TGreat Expert
Sample Capacity	96 × 0.2 ml tubes, 0.2 ml tube strips, or 1 × 96-well plate
Temperature Range	0~105°C
Maximum Ramp Rate	5°C/s
Temperature Uniformity	≤ ±0.2°C across wells
Temperature Accuracy	≤ ±0.1°C of programmed target
Temperature Display Resolution	0.1°C
Temperature Control Mode	Block and Tube
Adjustable Ramp Rate	0.1~5°C/s
Gradient Operational Range	30~105°C
Gradient Setting Range	1~42°C
Gradient Distribution	12 columns of gradients from left to right
Heated Lid Temperature	30~115°C
Number of Protocol Storage	20000 + (USB FLASH)

Product Name	TGreat Expert
Maximum Number of Protocol Steps	30
Maximum Number of Protocol Cycles	200
Time Increment/Decrement	1~600 sec
Temperature Increment/Decrement	0.1~10.0°C
Protocol Pause Function	Yes
Power Down Data Protection	Yes
Hold at 4°C	Infinite length
Language	Chinese/English
Online Function	Yes
LCD Display	10.1 inch, 1024×600 pels
Data Transfer Interface	USB 2.0, WIFI
Product Dimension	385 mm× 270 mm× 255 mm (L×W×H)
Product Net Weight	10 kg
Input Power	100-240 VAC, 50/60 Hz, 750 W

Compatible Accessories

Consumable Type	Picture
0.2 ml single tube	
0.2 ml eight-row tube	
No skirt 96×0.2 ml well plate	
Half skirt 96×0.2 ml well plate	
Full skirt 96×0.2 ml well plate	

TGreen Transilluminator

—Safe and convenient gel observation/cutting assistant

Cat.no.	Package
OSE-470	Set
OSE-470L	Set

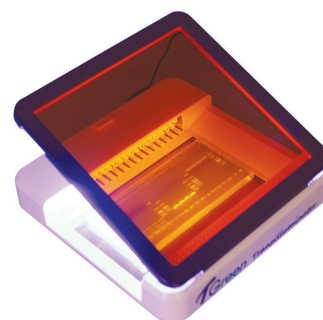
Description

TGreen Transilluminator adopts the LED blue light source, amber filter and 470-520 nm excitation light material, which can be used for observation and cutting of gels loaded with GFP protein, or nucleic acid stained with a variety of safe dyes/EB. The TGreen Transilluminator can achieve perfect gel observation and cutting effect with no ultraviolet radiation, and provide a safe and humanized laboratory environment.

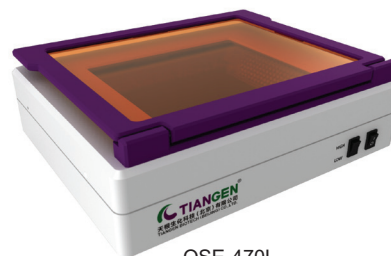
This instrument can also be applied to other fluorescence observation with excitation wavelengths of 470-520 nm, such as stained, small animals and plants with GFP tag.

Features

- High sensitivity: When used with GeneGreen, as low as 0.5 ng (1000 bp) dsDNA can be observed.
- Safe: Blue light source has no damage to human body, gel and sample.
- Wide application range: Compatible fluorescent dyes include GeneGreen, GelRed, GelGreen, SYBR Green I, SYBR Safe, Goldview, SYBR Gold, SYPRO Ruby, SYPRO Orange, SYPRO Tangerine, eGFP, Cy2, FITC, EB etc.
- Long service life: The service life of LED lamps is 50,000 h.
- Humanization: Multi-angle rotation of filter facilitates gel cutting.



OSE-470



OSE-470L

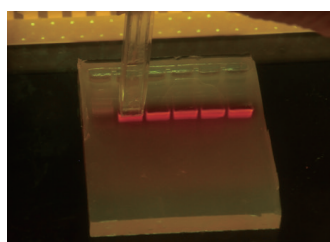
Operating Parameters

Model	OSE-470	OSE-470L
Dimension (D×W×H)	210 mm×210 mm×30 mm	280 mm×340 mm×80 mm
Weight	2.3 kg	4.5 kg
Transmission Light Source	Blue LED, wavelength 470 nm	Blue LED, wavelength 470 nm
Sensitivity	0.5 ng (1000 bp) dsDNA	0.5 ng (1000 bp) dsDNA
Observation Area (D×W)	120 mm×70 mm	160 mm×200 mm
Power Adapter	DC 12 V, 2.5 A	DC 12 V, 2.5 A
Adjustable Light Intensity	No	Strong/Weak

Optional Supporting Consumables

Gel Cutter (OSE-GC)

With TIANGEN's unique Gel Cutter (OSE-GC), gel-cutting is no longer troublesome. With a simple press and push, the gel block can be directly transferred to the EP tube, and the whole gel-cutting process is completed.



Magnetic Frame (1.5 ml & 15 ml)

—Light, handy multifunctional magnetic stand

Cat.no.	Package
OSE-MF-01	Set

Description

This product is suitable for the magnetic bead separation experiment of 1.5 ml centrifuge tubes and 15 ml centrifuge tubes. The powerful magnet can quickly separate the magnetic beads. Combined with the magnetic beads extraction kits, it can quickly separate nucleic acids, proteins, cells and other substances.

Features

- Convenient combination: Each component adopts a splicing design, and 16, 24 or 32 1.5 ml centrifuge tubes can be processed in the splicing magnetic stands at one time.
- Efficient: High magnetic strength with the average magnetic separation time 10 seconds, which can effectively separate all kinds of magnetic beads.
- Small and durable: Made of "super steel" POM material. Light and wear-resistant.

Certification

CE (for research use only)



Operating Parameters

Model	OSE-MF-01
Weight	0.2 kg
Dimension	86 mm × 50 mm × 35 mm
Applicable Consumables Specifications	1.5 ml (2×4 tubes), 15 ml (2 tubes)

96 Deep Plate Magnetic Separator(12 mm)

—Lightweight and durable, specific designed for 96-deep-well plates

Cat.no.	Package
OSE-TGA-S04	Set

Description

This product is suitable for a variety of deep-well plates and can efficiently separate magnetic beads. Place the 96-deep-well plate on the magnetic separator, and the magnetic separation process can be completed in an average of 30 seconds, thus achieving the purpose of quickly separating and purifying substances such as cells, proteins or nucleic acids.

Features

- High efficiency: Strong magnetic strength, capable of efficiently separating various magnetic beads.
- Small and durable: The base is made of "super steel" POM and is lightweight and wear-resistant.

Operating Parameters

Model	OSE-TGA-S04
Weight	0.2 kg
Dimension	128 mm × 86 mm × 15 mm
Exposed length of magnetic rod	12 mm



15 ml Tube Magnetic Stand

—Light and handy 15 ml magnetic stand

Cat.no.	Package
OSE-MF-02	Set

Description

This product is suitable for the magnetic beads separation experiment of 15 ml centrifuge tube. The powerful magnet can quickly separate the magnetic beads. Combined with the magnetic beads extraction kits, it can quickly separate nucleic acids, proteins, cells and other substances.

Features

- Efficient: High magnetic strength, which can effectively separate various magnetic beads.
- Durable: It is made of "super steel" POM and is lightweight and wear resistant.

Operating Parameters

Model	OSE-MF-02
Specifications	2×6 holes
Applicable Consumables Specifications	15 ml centrifuge tube
Dimension	145 mm×50 mm×88 mm
Weight	0.6 kg



Certification

CE (for research use only)

200 µl PCR Plate/Tube Magnetic Stand

—Magnetic stand specially designed for PCR plates/8-strip tubes

Cat.no.	Package
OSE-MF-03	Set
OSE-MF-04	Set

Description

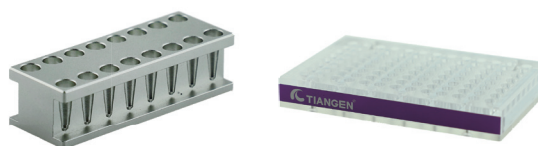
This series of products are suitable for separating magnetic beads from liquid samples in 0.2 ml PCR single tube, 8-tube strips, semi-skirt or non-skirt 96-well plates. Magnetic beads can be bond on the side wall of the consumables gently and quickly within the magnetic field range, which facilitates the separation of magnetic beads from liquid.

Features

- Efficient: High magnetic strength, highly efficiency in separating all kinds of magnetic beads.
- Wide application: Compatible with various PCR tube consumables.

Operating Parameters

Model	OSE-MF-03	OSE-MF-04
Supporting Material	Acrylic	6061 aluminum
Specifications	8×13 holes	2×8 holes
Applicable Consumables Specifications	0.1 ml/0.2 ml PCR single-tube, 8-tube strip, 96-hole plate	0.2 ml PCR single-tube and 8-tube strip
Dimension	128 mm×86 mm×18 mm	73 mm×26 mm×20 mm
Weight	270 g	96 g



Certification

CE (for research use only)

TGuide S16 Nucleic Acid Extractor

—An innovative all-in-one smart solution for low throughput nucleic acid extraction experiments

Cat.no.	Package
OSE-S16-AM	Set

Description

TGuide S16 Nucleic Acid Extractor can process 1~8 or up to 16 samples simultaneously by the magnetic rods to bind and transfer the magnetic beads, the 96-well plate or single-sample reagent cartridge and magnetic tip comb. TGuide S16 is an affordable choice for academic or industrial labs to extract nucleic acid automatically from various sample types, including animal and plant tissue, blood, virus, PCR product, agarose gel, etc.



Simple, compact and portable benchtop

- The instrument is simple in appearance, small in size and space-saving.
- It supports battery power supply, with low power consumption mode, to meet the demand of long battery life.
- It can meet the automation requirements of nucleic acid extraction in different environments such as fields and indoors.

Intelligent operating system

- On-board touch screen, with simple and intuitive interface.
- Free switching between Chinese and English systems;
- Through the mobile terminal APP, the program can be edited and set at any time.
- Shortcut keys and an external mouse are provided for convenient use in different scenes.

Reproducible results, safe and reliable

- Precise ball screw movement, high instrument stability and uniform experiment results.
- Cyclical magnetic binding mode, which can fully bind magnetic beads with small particle size.
- Equipped with ultraviolet disinfection function and anti-aerosol fan to eliminate the risk of cross contamination.
- If the door is opened during the program, the program will be automatically suspended, thus ensuring the safety of users in all aspects.

Diversified reagent solutions

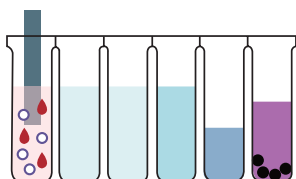
- Providing comprehensive, complete and high-quality automation solutions for various samples based on TIANGEN nucleic acid extraction and purification platform. Providing single reagent cartridges to meet the extraction requirements of samples with different throughput, avoids the waste of reagent, consumables and saves costs.

Principle of nucleic acid extraction and purification by magnetic rod method

After the sample is lysed by the lysis buffer, the nucleic acid dissociating in the lysis/binding solution is specifically bond by the magnetic beads. Then they are collected and transferred by the magnetic rods from the lysis/binding solution to series of rinsing columns. By releasing the beads into the washing buffer and mixing, various impurities can be removed. Finally the purified nucleic acid is dissociated from the magnetic beads and dissolved in the eluent.

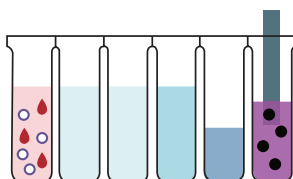
Step 1

Sample lysis



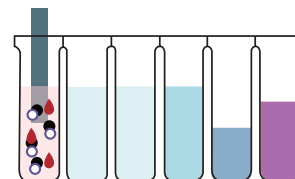
Step 2

Magnetic bead activation



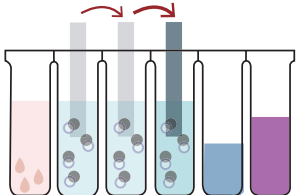
Step 3

DNA/RNA binding



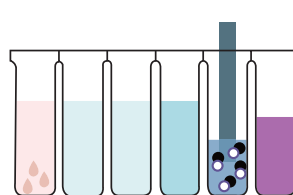
Step 4

DNA/RNA rinsing



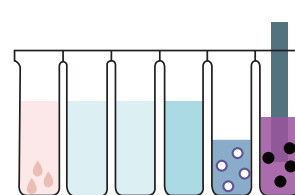
Step 5

DNA/RNA elution



Step 6

Magnetic bead release

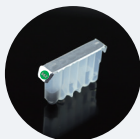


Taking the Blood Genomic DNA Extraction Kit as an example.

Simple and Convenient

With pre-installed programs, just unpack the cartridge, select the protocol and run your experiment.

Few Touch Points to Start



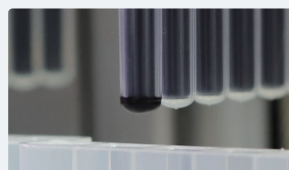
With pre-loaded reagents, no additional pipetting is needed.

The installation and operation require little training. With pre-installed programs, unpack the cartridge, select the protocol and run your experiment. Programs are ready-to-use, and also customizable.

Cyclic Binding

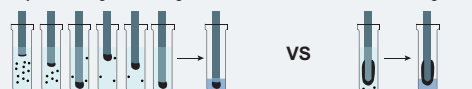
Strong End Binding Mode

The magnetic beads bind at the rod bottom, which ensures that the eluent can still cover all magnetic beads even when the eluent volume is small. This design maximizes the yield of nucleic acid.



Cyclical strong-end binding mode

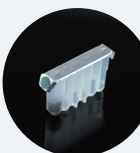
Conventional binding mode



Contamination Control and Operator Protection

Fully Automatic Closed Operation

With the anti-aerosol fan and ultraviolet sterilization double insuring, the cross contamination between wells and samples can be avoided.



Preloaded reagents and matched disposable consumables

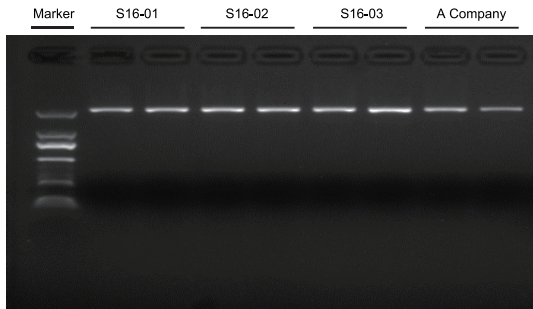
Comfortable Experience

Ergonomic Design

45-degree angle of touch screen
Intuitive interface



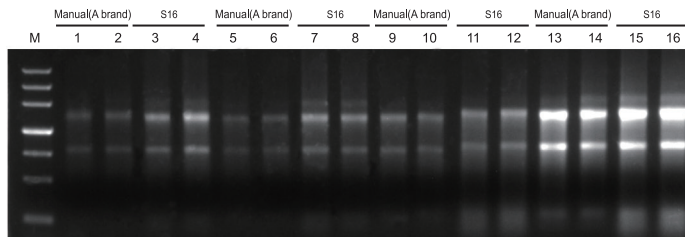
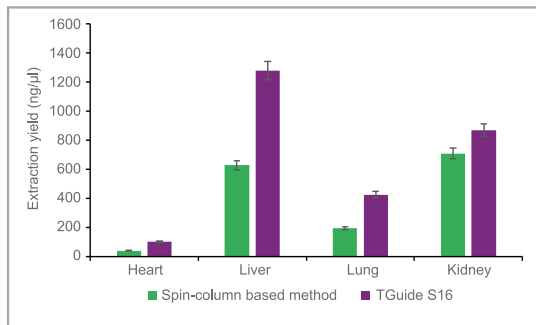
TGuide S16 DNA Purification Results Example (4993550)



2000 bp segment agarose gel DNA purification and recovery
 Agarose gel concentration :1.5%(TBE)
 Loading volume: 8 μ l
 Marker: D2000, TIANGEN
 S16-01, S16-02, and S16-03 represent the parallel sample purification and recovery experiment using 3 TGuide S16 Nucleic Acid Extractors with TGuide Smart DNA Purification Kit (4993550) at the same time.
 A Company: the manual spin-column extraction kit of a well-known brand

Experiment result: using the TGuide S16 Nucleic Acid Extractor with the exclusive kit TGuide Smart DNA Purification Kit (4993550) can achieve the full automation of gel recovery. The parallelism of purification and recovery is excellent, and the extraction result is better than that of competing products of other companies.

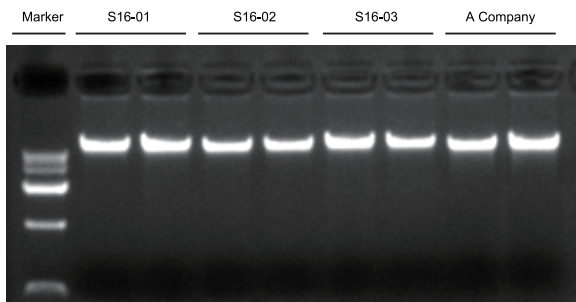
TGuide S16 Animal RNA Result Example (4993551)



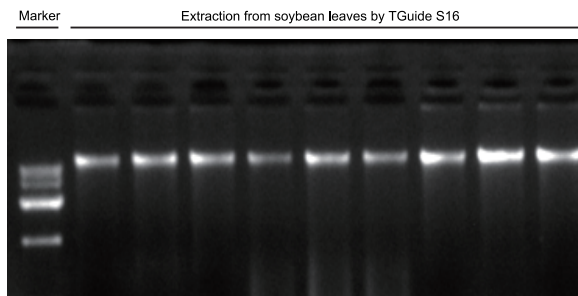
Loading volume: 1 μ l. The liver sample was diluted 5 times and loaded. Agarose gel concentration: 1%. Electrophoresis for 20 min at 6 V/cm;
 M: TIANGEN Marker III
 1-4: heart 5-8: liver 9-12: lung 13-16: kidney
 The first two samples of each tissue were extracted by the spin-column based extraction kit, and the last two were extracted automatically by TGuide S16.
 Sample source: CD-1 mice

Experiment result: the animal tissue total RNA automatically extracted by TGuide S16 equipped with reagent TGuide Smart Blood/Cell/Tissue RNA Kit (4993551) has high yield and purity, which is equivalent to the RNA extracted by the spin-column based extraction protocol. The purity is approximately the same, with OD260/OD280 around 2.0~2.1 and OD260/OD230 > 2.0. In conclusion, TGuide S16 can be used to extract the total RNA from animal tissues in replacement of spin-column based extraction protocol.

TGuide S16 Plant DNA Result Example (4993548)



Genomic DNA extraction of potato
 Sample size: 100 mg
 Sample pre-treatment: grinding with liquid nitrogen or tissue grinding homogenizer
 Agarose gel concentration :2%(TAE)
 Loading volume: 2 μ l
 Marker: D15000, TIANGEN
 S16-01, S16-02 and S16-03 represent parallel experiments of extracting plant genomic DNA by using 3 TGuide S16 Nucleic Acid Extractors at the same time.
 A Company: a well-known brand

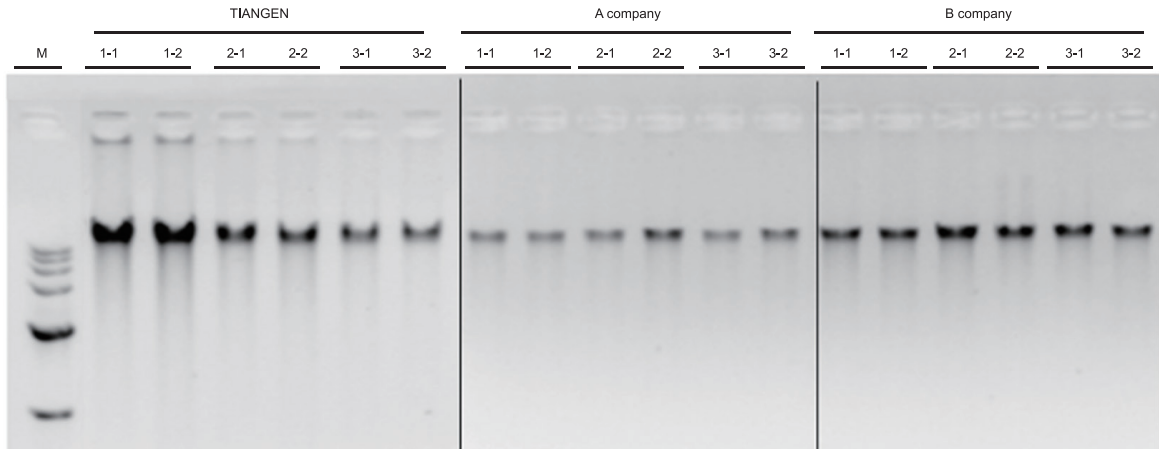


Genomic DNA extraction of soybean leaf
 Sample size: 100 mg
 Sample pre-treatment: grinding with liquid nitrogen or tissue grinding homogenizer
 Agarose gel concentration :1%(TAE)
 Loading volume: 2 μ l
 Marker: D15000, TIANGEN

Experiment result: using TGuide S16 with reagent TGuide Smart Magnetic Plant DNA Kit (4993548) to automatically extract the genomic DNA of soybean leaves has achieved high yield and high purity. In this experiment, about 13 μ g of nucleic acid was extracted from 100 mg soybean leaves, with OD260/ OD280 around 1.8~1.9, and OD260/OD230>2.0.

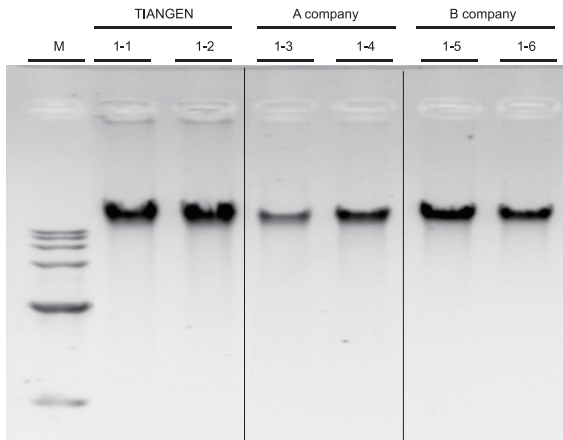
Experiment result: using TGuide S16 with reagent TGuide Smart Magnetic Plant DNA Kit (4993548) to automatically extract the genomic DNA of potatoes has achieved high yield and high purity, which is equivalent to the extraction product quality of well-known competing spin-column extraction kits. In this experiment, about 11 μ g of nucleic acid was extracted from 100 mg potato buds, with OD260/ OD280 around in 1.8~1.9, and OD260/OD230>2.0.

TGuide S16 Whole Blood DNA extraction(4993703)



Sample source: Three Human whole blood samples. Three replicates are tests for individual kits. Replicates for each kit are from a same sample source.
 Sample status: Frozen blood
 Input volume: 200 µl
 Elution volume: 100 µl
 Agarose gel concentration: 1.5%
 Loading volume: 1 µl
 M: Marker III, TIANGEN
 A company & B company: Well-known brands
 Experiment result: using TGuide S16 with reagent TGuide Smart Blood Genomic DNA Kit (4993703) to automatically extract the genomic DNA of frozen blood has achieved good yield and high purity, which is equivalent to the extraction yield and purity of well-known competing products. The OD260/OD280 around 1.7~1.9, and OD260/OD230 > 1.7.

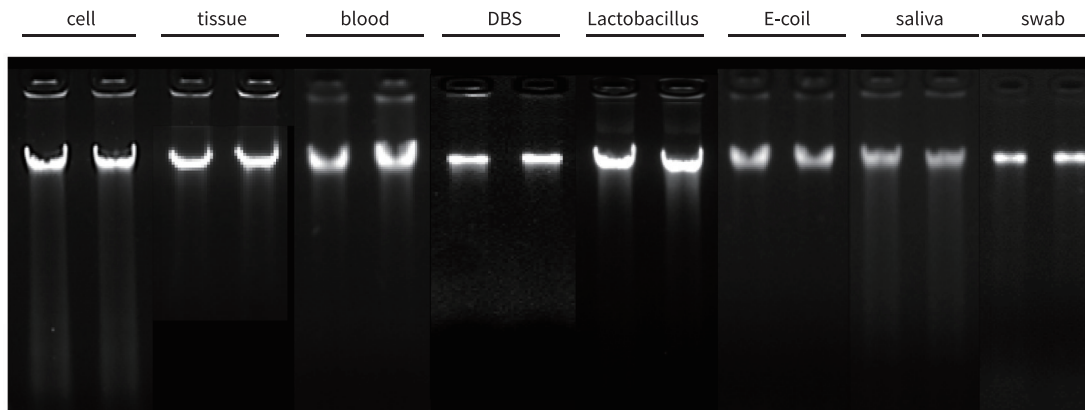
TGuide S16 Buffy Coat DNA extraction(4993703)



Sample source: Human blood samples.
 All replicates are from one same sample.
 Sample status: Hemocyte
 Input volume: 100 µl
 Elution volume: 100 µl
 Agarose gel concentration: 1.5%
 Loading volume: 1 µl
 M: Marker III, TIANGEN
 A company & B company: Well-known brands

Experiment result: using TGuide S16 with reagent TGuide Smart Blood Genomic DNA Kit (4993703) to automatically extract the genomic DNA of buffy coat has achieved good yield and high purity, which is equivalent to the extraction yield and purity of well-known competing products. The OD260/OD280 around 1.7~1.9, and OD260/OD230 > 1.7.

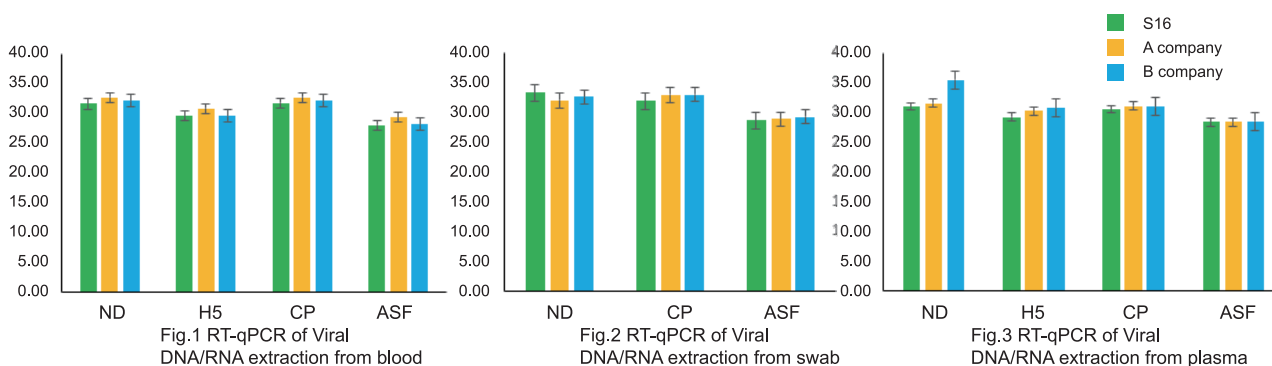
TGuide S16 Universal DNA extraction(4993704)



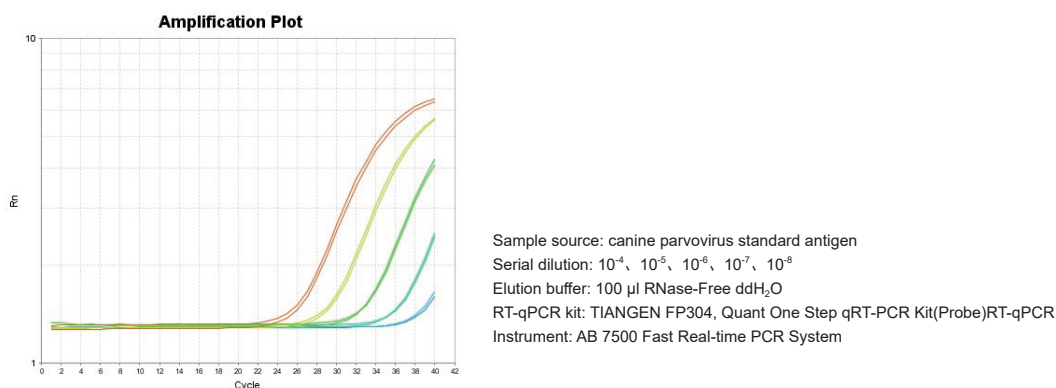
Experiment result: using TGuide S16 with reagent TGuide Smart Universal DNA Kit (4993704) to automatically extract the genomic DNA of multiple samples including cell, tissue, blood, dried blood spot (DBS), Lactobacillus, E.coli, saliva, and swab, etc, achieved good yield and high purity. The OD260/OD280 around 1.7~1.9, and OD260/OD230 > 1.6. Elution volume: 100 μ l

Agarose gel concentration: 1.5% Loading volume: 1 μ l

TGuide S16 Viral DNA/RNA extraction(4993702)



Using TGuide S16 with reagent TGuide Smart Viral DNA/RNA Kit (4993702) to automatically extract DNA/RNA from multiple source including whole blood, swab and plasma achieved good yield and high purity. The OD260/OD280 around 1.7~1.9, and OD260/OD230 > 1.6. A company & B company: Well-known brands. ND: Newcastle disease, H5: Avian flu, CP: Canine parvovirus, ASF: African Swine fever virus



Experiment result: using TGuide S16 with reagent TGuide Smart Universal DNA Kit (4993704) to automatically extract canine parvovirus RNA and perform RT-qPCR. The viral RNA extracted by TGuide S16 with reagent TGuide Smart Universal DNA Kit (4993704) meets the requirements of subsequent qPCR experiments with stable gradient trends and high sensitivity. The minimum sensitivity can reach 100 copies/ μ l.

Technical Parameters of TGuide S16 Nucleic Acid Extractor

Parameters	Model	TGuide S16
Liquid Processing Volume		20 µl~1000 µl
Sample Throughput		1 ~ 8 or 16
Variance Between Extraction and Purification Columns		CV≤5%
Lysis/elution Temperature Control Range		Room temperature ~120°C;
Temperature Rising Time		≤ 5 min (within room temperature ~ 120°C)
Temperature Accuracy		≤±1°C
Operation Interface		4.3-inch touch screen, mobile terminal APP control
Program Storage		Instrument storage memory ≤ 100 groups
Data Interface		Compatible with bluetooth, USB and RS232 data transmission, and portable PC port transmission
Contamination Control		Anti-aerosol fan, ultraviolet disinfection
Power Supply		Input voltage: DC24V±10%; adapter: AC100-240V±10%, 50-60 Hz±5%; Support battery power supply
Power		Standby 10 W, maximum power 160 W
External Dimensions (W×D×H)		208 mm × 258 mm × 315 mm

TGuide S16 Nucleic Acid Extractor and Selection Guide of Supporting Reagent Consumables

	Catalog number	Product name	Package
Main unit	OSE-S16-AM	TGuide S16 Nucleic Acid Extractor	1 set
Consumables	OSE-TGA-S02	TGuide Smart 96 Deep-well Plate	96 pieces/box
	OSE-TGA-S03	TGuide Smart Magnetic Tip Comb	100 bags/box (2 pieces/bag)
	OSE-TGA-S32	TGuide Single Sample Tank Bracket	5 pieces/box
Pre-loaded Reagents	4993547	TGuide Smart Magnetic Tissue DNA Kit	48 preps
	4993548	TGuide Smart Magnetic Plant DNA Kit	48 preps
	4993549	TGuide Smart Soil/Stool DNA Kit	48 preps
	4993550	TGuide Smart DNA Purification Kit	48 preps
	4993551	TGuide Smart Blood/Cell/Tissue RNA Kit	48 preps
	4993552	TGuide Smart Magnetic Plant RNA Kit	48 preps
	4993703	TGuide Smart Blood Genomic DNA Kit	48 preps
	4993702	TGuide Smart Viral DNA/RNA Kit	48 preps
	4993704	TGuide Smart Universal DNA Kit	48 preps

Certification

CE (for research use only)

CE IVD (for in vitro diagnostic use)

TGuide S32 Automated Nucleic Acid Extractor

—Magnetic rods method for nucleic acid purification, a new solution for high-quality, fast and automated nucleic acid extraction

Cat.no.	Package
YOSE-S32	Set

Description

TGuide S32 Automated Nucleic Acid Extractor adopts the latest magnetic rods binding and transfer method. 96-deep well plates and different kinds of magnetic beads extraction reagents are applied to automatically extract and purify nucleic acids from 1-32 blood/cells/tissues/viruses and other samples. The instrument uses the special magnetic rods to bind, transfer and release magnetic beads, so as to realize the automatic transfer of magnetic beads and nucleic acids.

Features

- The unique magnetic rod vibration mode has large vibration amplitude and high precision.
- New strong binding mode, good magnetic beads binding effect and high nucleic acid yield.
- Limit position protection function, stable and orderly operation of the instrument to avoid failure.
- Windows Pad and screen button double control mode, powerful program editing function, intuitive, simple and convenient operation.
- Smart contamination control system and UV sterilization module can effectively avoid cross contamination between sample wells and batches.
- Relying on TIANGEN nucleic acid extraction and purification reagent platform, it provides a series of comprehensive, complete and high-quality automation solutions.



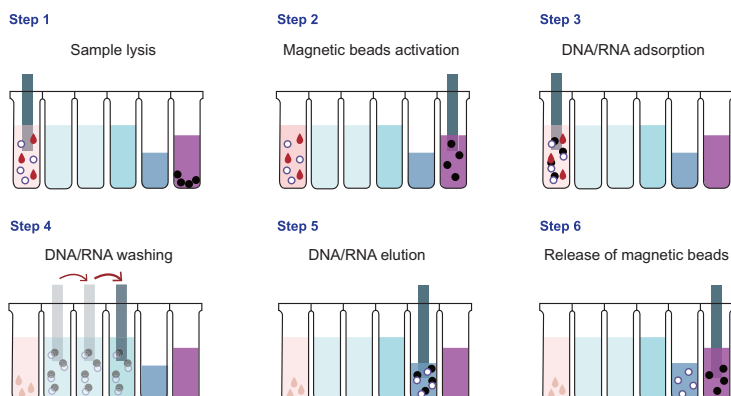
Certification

CE (for research use only)

Operating Parameters

Instrument	1.Sample throughput: 1-32 2.Sample processing volume: 20 -1000 μ l 3.Magnetic beads recovery efficiency: \geq 98% 4.Lysis/elution temp. control range: room temperature +5°C ~125°C 5.Operation mode: Windows Pad and screen buttons 6.Port mode: USB, RS232 data port, Bluetooth, Wi-Fi
Power Adapter	AC 200-240 V 50/60 Hz 600 W
Dimensions (width×depth×height)	430 × 372 × 450 mm
Weight	25.5 kg

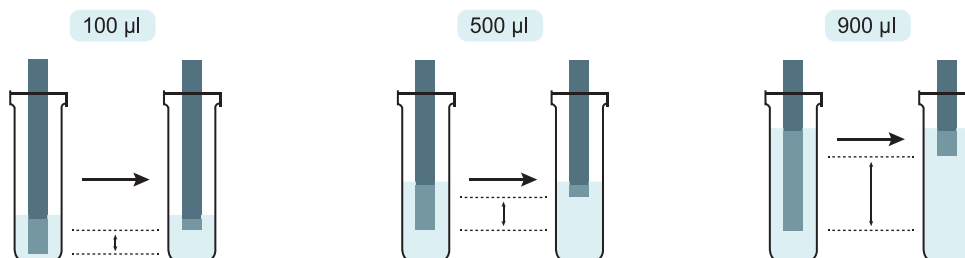
Principle



After the sample is lysed by the lysis buffer, the nucleic acid dissociated from the lysis/binding solution is specifically bonded by the magnetic beads. Through the cooperation of the magnetic rod and the magnetic tip comb, the magnetic binding, transfer, release, mixing and other actions are completed to separate the magnetic beads binding the nucleic acid from the lysis/binding solution. Various impurities that are not specifically bonded to the magnetic beads are removed in the washing well, and finally the nucleic acid molecules are dissolved in the elution buffer.

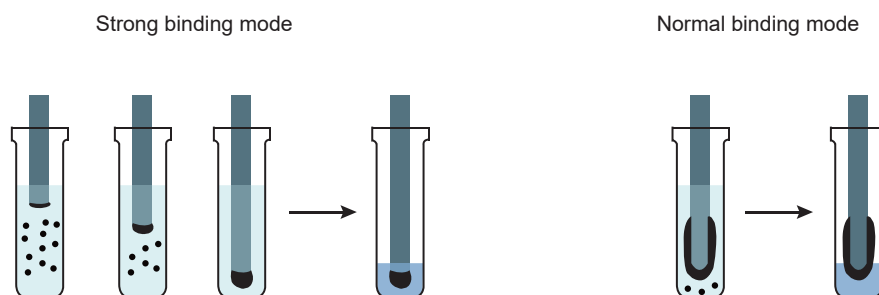
Unique Movement Mode of Magnetic Rod

The driving device adopts a stepping motor. With large vibration amplitude of the magnetic rod, the vibration amplitude is automatically adjusted according to the volume of the solution, making sure a good mixing effect. The transmission device adopts a ball screw, leading to stable operation of magnetic rod, high precision and long service life. All moving parts are equipped with limit position protection function to ensure smooth and orderly operation of the instrument to avoid failures.



New Strong Binding Mode

Through a newly designed strong binding mode, magnetic beads are bond on the tip of the magnetic rod, so that under the condition of small elution volume, eluent can still cover all magnetic beads. The magnetic beads have good binding effect and high nucleic acid yield.

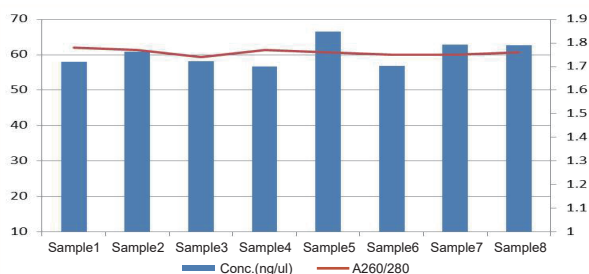


Dual Control Mode of Windows Pad and Screen Buttons

On the basis of the classic button operation, the TGuide S32 can also be remotely controlled with high-performance Windows Pad. The interactive interface of Windows application program is perfectly set, which is more in line with customers' normal office working and learning habits.

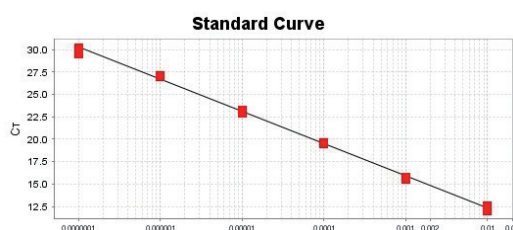
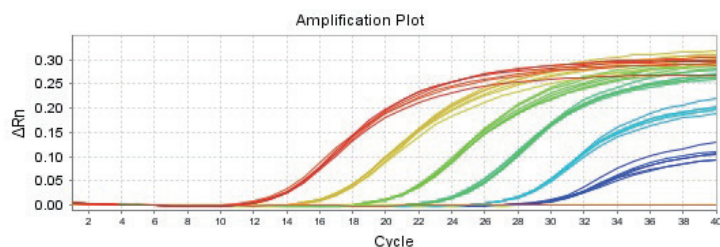


Blood Genomic DNA Extraction



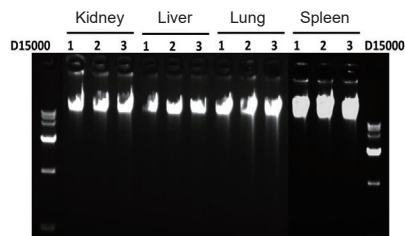
Sample: 200 μ l frozen EDTA anticoagulant whole blood. Genomic DNA is dissolved in 100 μ l Buffer TB. DNA Marker: TIANGEN MD110, D15000 DNA Marker

Virus DNA/RNA Extraction



Samples: Avian influenza H5 virus standard antigen, 10^{-2} , 10^{-3} , 10^{-4} , 10^{-5} , 10^{-6} , 10^{-7} gradient dilution and NTC control. Viral RNA was dissolved in 100 μ l RNase-Free ddH₂O.
RT-qPCR kit: TIANGEN FastKing One Step qRT-PCR Kit (Probe)
RT-qPCR instrument: AB 7500 Fast Real-time PCR System

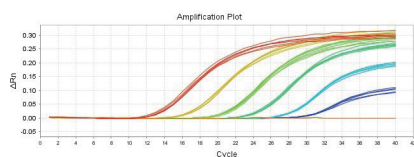
Animal Tissues Genomic DNA Extraction



Extraction yield of genomic DNA from different tissues of rats

Tissue sample	Sample amount	DNA yield (μ g)	OD _{260/280}	OD _{260/230}
Kidney	20 mg	20.4 \pm 0.6	1.78 \pm 0.02	1.59 \pm 0.07
Liver	20 mg	17.0 \pm 0.8	1.78 \pm 0.01	1.57 \pm 0.05
Lung	20 mg	23.0 \pm 1.1	1.77 \pm 0.03	1.51 \pm 0.15
Spleen	20 mg	47.2 \pm 2.2	1.80 \pm 0.02	1.82 \pm 0.19

Mouth Swabs Genomic DNA Extraction



	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Conc.(ng/ μ l)	28.1	27.1	28.6	28.6	30.3	28.3
OD _{260/280}	1.89	1.94	1.85	1.88	1.85	1.89

Sample: The mouth swab sampler is wiped 20 times in the mouth and stored in a centrifuge tube with 450 μ l Buffer GA. Genomic DNA was dissolved in 60 μ l Buffer TB.
DNA Marker: TIANGEN D15000 DNA Marker

Product Guide for TGuide S32

Cat. No.	Product Name	Package	Applicable Sample
4992985	TGuide S32 Magnetic Blood DNA Kit	96 preps/kit	Blood
4992986	TGuide S32 Magnetic Tissue DNA Kit	96 preps/kit	Animal tissues
4992987	TGuide S32 Magnetic Swab Genomic DNA Kit	96 preps/kit	Oral swab
4992988	TGuide S32 Magnetic Viral DNA/RNA Kit	96 preps/kit	Serum, plasma, lymph, acellular body fluid, supernatant of cell culture, urine or various virus preservation solutions, etc
4992989	TGuide S32 Magnetic Plant DNA Kit	96 preps/kit	Plant tissues
4992990	TGuide S32 Magnetic Blood Spots DNA Kit	96 preps/kit	Dry blood spots
4992991	TGuide S32 Magnetic Soil/Stool DNA Kit	96 preps/kit	Flowerbed soil, flowerpot soil, farmland soil, mountain forest soil, silt and other soil and feces

TGuide S96 Automated Nucleic Acid Extractor

— **Ultra high throughput, with maximum 192 samples be extracted at one run**

Cat.no.	Package
OSE-S96-01	Set
OSE-S96-02	Set
OSE-S96-03	Set

Description

TGuide S96 Automated Nucleic Acid Extractor adopts the latest magnetic rod binding and transfer magnetic beads method. 96-deep well plates and different kinds of magnetic beads extraction reagents are applied to automatically extract and purify nucleic acid from 1-192 blood/cells/tissues/viruses and other samples.

This extractor can be equipped with an 24 flux module which has good adaptability to large-volume samples. It is equipped with TIANGEN pre-packed reagents and can simultaneously extract 1-24 samples. The maximum sample volume handled by the instrument is 5 ml. It is especially suitable for extraction of free nucleic acid in serum and plasma. It has high extraction yield and good purity, and can be used in fields such as tumor detection, NIPT, etc.

Features

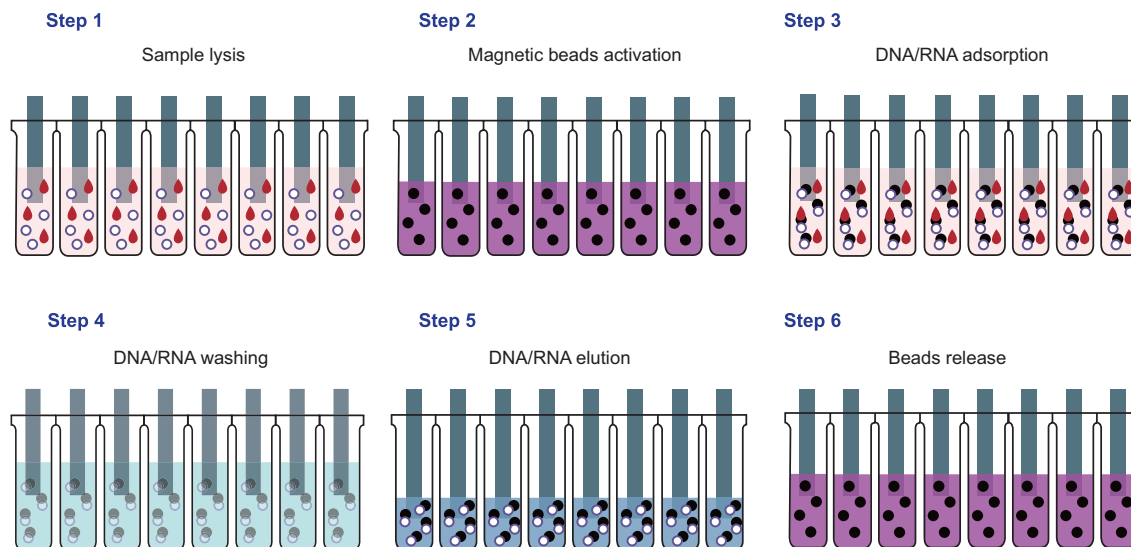
- Extremely high throughput: automatically extract from 96 samples. The smart design of expandable throughput allows 192 samples of certain types to be processed in the same run
- Operation mode: 10.1-inch touch interface (Windows system)
- Magnetic bead binding: Cycle binding, recovery efficiency $\geq 98\%$
- Movement mode: Four-dimensional integrated movement, confirming the best mixing effect
- Replaceable modules: A 24-flux modules can be provided, with flexible processing volume
- Professional contamination prevention: Effective avoidance of cross-contamination between wells and plates



Operating Parameters

Instrument name	TGuide S96 Automated Nucleic Acid Extractor		
Model	OSE-S96-01	OSE-S96-02	OSE-S96-03
Sample throughput	1-96	1-96	1-24
Treated volume	20-1000 μl	20-1000 μl	50 5000 μl
Recommended volume	200-400 μl	200-400 μl	2000-5000 μl
Matching reagent	96-Deep Well Plate prepackage reagent	96-Deep Well Plate prepackage reagent, 96-Well Plate for elution	24-Well Plate prepackage reagent
Weight	140 kg	140 kg	140 kg
Magnetic bead recovery		$\geq 98\%$	
Lysis/elution temp. control range		Room temperature-80°C	
Oscillation mode		Adjustable multi-gear vibration speed, self-adaptive vibration amplitude for solution volumes	
Deviation between wells		$\leq 1\%$	
Pollution control		Ultraviolet sterilization module, liquid drip prevention tray, aerosol prevention fan	
Operation mode		Built-in Windows control system, 10.1 inch touch screen	
Program management		Flexible to create, edit and delete program	
Port mode		USB	
Dimension (W x D x H)		805×640×721 mm	
Power adapter		220 VAC 50 Hz	
Working temperature		10°C~30°C	
Working humidity		$\leq 85\%$	

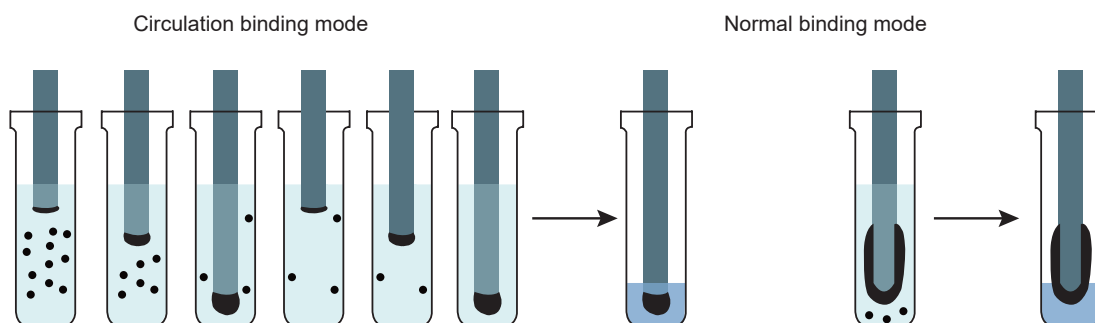
Principle



Multiple Mechanisms Guarantee Nucleic Acid Extraction of Ultra High Yield & Purity

Circulation binding mode, magnetic bead recovery efficiency $\geq 98\%$

Through the circulation binding mode with adjustable speed, magnetic beads are bond on the tip of the magnetic rod during the slow descending process of the magnetic rod, so that under the condition that the elution volume is small, the eluent can still cover all the magnetic beads and circulate for several times, and even the magnetic beads with small particle sizes can be effectively bond.



Four-Dimensional Integrated Motion Mode Ensures the Best Blending Effect

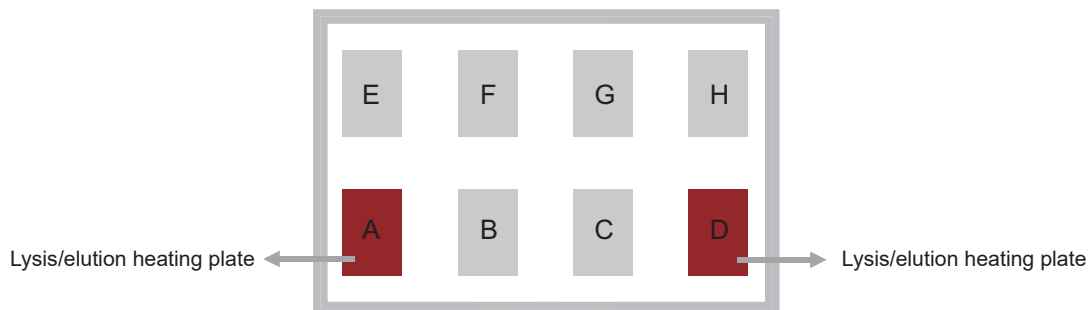
- The four-dimensional integrated motion mode of X/Y/Z motion of the mechanical arm integral module and vibration of the mixing parts ensures stable operation and high precision of the instrument;
- The instrument has high oscillation frequency and multi-gear adjustability, which is suitable for different reagent integration solutions;
- The vibration amplitude can be adaptively adjusted according to the solution volume set by the user, thus achieving the best mixing effect.

Professional Contamination Control & Safety Guarantee

- UV sterilization module: It can ensure that the operation in the machine reaches a sterile environment;
- Anti-aerosol fan: Keep the air in the instrument in circulation to avoid aerosol contamination;
- Anti-dripping disc: Effectively avoid cross contamination between wells and plates;
- Closed operation: If the door is opened accidentally, the instrument will automatically pause to ensure safety;
- Disposable reagent consumables: To protect the safety of laboratory personnel and laboratory environment to the greatest extent.

Smart Design of the Expandable Throughout

The matrix arrangement of double row and four plate positions not only ensures the expandability of the experiment, but also reduces the occupied area of the instrument and effectively uses the space. Under limited conditions, it can be expanded to extract 192 samples at a time, ensuring a ultra-high throughput extraction capability. With double heating modules of lysis/elution, the extraction efficiency can be improved.



Intuitive and User-friendly Human-computer Interaction Interface

The 10.1-inch touch computer is equipped with Windows system and touch operation, which is simple and easy to use, conforming to the user's usage habits. The program setting takes full account of the experimental expansibility, multi-parameter free configuration, and large integration and development space.



Product Guide for TGuide S96

Cat. No.	Product Name	Package	Applicable Sample
4992995	TGuide S96 Magnetic Universal DNA Kit	96 preps/kit	Blood, dry blood spot, animal tissues, saliva, swab, mouth wash, amniotic fluid, FFPE, bacteria, etc
4992996	TGuide S96 Magnetic Viral DNA/RNA Kit	96 preps/kit	Serum, plasma, lymph, acellular body fluid, supernatant of cell culture, urine or various virus preservation solutions, etc
4992997	TGuide S96 Circulating DNA Maxi Kit	24 preps/kit	Large volume of serum and plasma
4992998	TGuide S96 Magnetic Soil /Stool DNA Kit	96 preps/kit	Flowerbed soil, flowerpot soil, farmland soil, forest soil, mud, laterite, black soil, dust and other soil and feces
4992977	TGuide S96 Blood/Cell/Tissue RNA Kit	96 preps/kit	Animal tissues, cells, blood