FOUR E'S
SCIENTIFIC

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LAB INSTRUMENTS
LIFE SCIENCE TOOLS

2024

Four E's Scientific, part of the FOUR E's Industrial Group established in 2009, is focused on providing laboratories worldwide with high-quality instruments & supplies, thereby furthering Scientific Research. Today, we are one of the fastest growing manufacturers of laboratory instruments and life science tools in the world.

We offer a comprehensive range of products that includes life science tools, liquid handling products, and laboratory instruments that finds application in all types of research and testing settings, starting from basic laboratory applications to highly specialized life science applications. Four E's products have been empowering our customers to explore and innovate in fields such as life science research, healthcare & diagnostics, chemistry, environment, food & agriculture

Backed by an excellent R&D center, state-of-the-art manufacturing facilities certified by ISO 9001 & ISO 13485, and an end-to-end quality management system, we deliver superior quality products that offer unrivaled price-performance ratio. Our products are sold in over 70 countries worldwide and we are a preferred OEM/ODM partner for many global brands.

C ϵ RoHS

CONTENTS

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NEW

LIQUID HANDLING

**MANUAL PIPETTES / ELECTRONIC PIPETTES
PIPETTE AIDS / DISPENSERS / PIPETTE STANDS**

Precipette™
SINGLE-CHANNEL ADJUSTABLE VOLUME PIPETTE

FEATURES

- Ergonomic design provides good hand grip, and combined with ultra-light weight offers fatigue-free pipetting
- Low operating force required for control button avoids repetitive strain injuries
- Ergonomically positioned ejector button with low plunger force for easy tip ejection
- Dispensing volume range of 0.1ul-10ml
- Color codes on top to easily identify different volume ranges
- Large 4-digit volume display offers high display accuracy of up to 0.002ul
- Centrally placed view window makes volume reading and adjustment easy for both left and right-handers
- Elastic tip cone ensures perfect seal with tips and allows for easy tip removal
- Each pipette is calibrated in accordance with ISO8655 and shipped with individual test certificates
- Durable material offers excellent temperature and chemical resistance
- The lower section can be autoclaved
- Easy to dismantle, and maintain
- Comes with tool for easy calibration

ERGONOMIC DESIGN
Lightweight

DURABLE
Excellent resistance to solvents, acids and bases

HIGH ACCURACY
Calibrated to
ISO 8655 standards

ADJUSTABLE VOLUME
Volume Range:
0.1µL-10mL

AUTOCLAVABLE
Lower Section
can be autoclaved

SPECIFICATIONS

Model	Volume Range	Increment	Maximum permissible systematic error (Inaccuracy)	Maximum permissible random error (Imprecision)	Color	
LH0301001	0.1-2.0µL	0.002µL	2.50%	2.00%	Brown	
LH0301002	0.5-10µL	0.01µL	1.00%	0.80%	Orange	
LH0301003	2-20µL	0.02µL	0.90%	0.40%	Purple	
LH0301004	5-50µL	0.05µL	0.60%	0.30%	Green	
LH0301005	10-100µL	0.1µL	0.80%	0.15%	Dark Blue	
LH0301006	20-200µL	0.2µL	0.60%	0.15%	Blue	
LH0301007	100-1000µL	1µL	0.60%	0.20%	Red	
LH0301008	1000-5000µL	5µL	0.60%	0.15%	Yellow	
LH0301009	1-10mL	10µL	0.60%	0.20%	Grey	

PIPETTE TIPS COMAPATIBILITY

Brand	Volume	Precipette™								
		0.1-2µL	0.5-10µL	2-20µL	5-50µL	10-100µL	20-200µL	0.1-1mL	1-5mL	1-10mL
Axygen	10µL (universal)	🟩	🟩							
	10µL(long)		🟩							
	200µL			🟩		🟩	🟩			
	1000µL							🟩		
	5ml								🟥	🟩
	10ml									🟥
QSP **(Thermo Scientific™)**	10µL	🟩	🟩							
	200µL			🟩		🟩	🟩			
	1000µL							🟩		
	5ml								🟥	🟩
	10ml									🟥
Eppendorf	10µL	🟩	🟩							
	200µL			🟩		🟩	🟩			
	1000µL							🟩		
	5ml								🟥	🟩
	10ml									🟥
Gilson	10µL	🟩	🟩							
	200µL			🟩		🟩	🟩			
	1000µL							🟩		
	5mL								🟥	🟩
	10mL									🟥

Precipette™
MULTI-CHANNEL ADJUSTABLE VOLUME PIPETTE

The use of a multi-channel pipette can greatly improve the efficiency and reproducibility for lab scientists working with microplates. Working with 8 channels substantially reduces the number of pipetting steps and improves work efficiency dramatically.

Four E's 8-channel pipette are designed for effortless pipetting due to light weight, light plunger forces and lowest tip ejection forces. The ergonomic design enables longer work periods without fatigue and minimizes the risk of repetitive strain injuries. Four-digit volume display provides accurate volumes setting, and easy visibility. Autoclavable lower section (at 121°C) provides effective decontamination.

FEATURES
● Ergonomic design allows comfortable grip and fatigue-free pipetting
● 4-digit volume display provides accurate volume setting and easy visibility.
● Wide volume range: from 0.5~300ul
● Enjoy minimal tip attachment and ejection forces, minimizing the risk of repetitive strain injuries
● The lower part is autoclavable (at 121°C) to ensure sterility and avoid cross-contamination
● The lower part can be rotated 360° to suit personal preference.
● Easy to disassemble the lower part for replacement or cleaning
● Color-coded control button helps to identify different volume ranges easily
● Equipped with O-ring on the tip cone to ensure a tight seal

① • Low plunger pressure
  • Color-coded control button for easy
    identification of different volumes

② • Light ejection force
  • Less fatigue when ejecting tips

③ • Easy-to-read 4-digit display

④ • The lower part can be easily detachable
  • The lower part allows 360° rotation
  • Lower part is autoclavable (at 121°C)

⑤ • Slide downwards to open the cover
  • Easy to clean and replace pistons or cylinder

⑥ • O-rings to ensure tight seal
  • Each tip cone can be individually replaced
  • Broadly compatible with various pipette tips
    on the market

Multi-stage ejection helps to minimize force when ejecting tips

Application

A multi-channel pipette is especially used in high-throughput experiments, where multiple samples or assays need to be processed quickly and accurately. Some common applications of a multi-channel pipette include

Clinical Diagnostics Labs   Biotechnology Labs

Chemistry Labs   Environmental Labs   Food Testing Labs

Specifications

Model	Volume Range	Increment	Testing Volume	Maximum permissible systematic error		Maximum permissible random error		Pipette tip	Control button color	Number of channel	Autoclavable
MP10	0.5-10µL	0.01µL	10	2.00%	0.200	1.00%	0.100	10µL	Orange	8	Yes (Autoclavable lower section at 121°C)
			5	4.00%	0.200	2.00%	0.100				
			1	8.00%	0.080	5.00%	0.050				
MP50	5-50µL	0.05µL	50	1.00%	0.500	0.40%	0.200	200µL	Green		
			25	1.50%	0.375	0.80%	0.200				
			5	3.00%	0.150	2.00%	0.100				
MP300	30-300µL	0.5µL	300	0.60%	1.800	0.30%	0.900	300µL	Light blue		
			150	1.00%	1.500	0.50%	0.750				
			50	3.00%	1.500	1.00%	0.500				

MANUAL PIPETTES

ADJUSTABLE VOLUME PIPETTE

FEATURES

● Ergonomic design

● Volume range of 0.1µL-10mL

● Digital display clearly reads volume setting

● The tip cone can be autoclaved (121°C, 20 minutes)

● Easy to calibrate and maintain with the tool supplied

● Safe tip cone filters can prevent internal contamination and damage on pipette

SPECIFICATIONS

	SINGLE-CHANNEL ADJUSTABLE VOLUME PIPETTE			
Model	Volume Range	Increment	Maximum permissible systematic error (Inaccuracy)	Maximum permissible random error (Imprecision)
TS-GP-01	0.1-2.5µL	0.05µL	±2.5%	±2.00%
TS-GP-02	0.5-10µL	0.1µL	±1.0%	±0.80%
TS-GP-03	2-20µL	0.5µL	±0.9%	±0.40%
TS-GP-04	5-50µL	0.5µL	±0.6%	±0.30%
TS-GP-05	10-100µL	1µL	±0.8%	±0.20%
TS-GP-06	20-200µL	1µL	±0.6%	±0.20%
TS-GP-07	100-1000µL	5µL	±0.6%	±0.20%
TS-GP-08	1000-5000µL	50µL	±0.5%	±0.20%
TS-GP-09	2-10mL	100µL	±0.6%	±0.20%

	8 - CHANNEL ADJUSTABLE VOLUME PIPETTE			
Model	Volume Range	Increment	Maximum permissible systematic error (Inaccuracy)	Maximum permissible random error (Imprecision)
TB-GP-10	0.5-10µL	0.1µL	±1.5%	±1.50%
TB-GP-11	5-50µL	0.5µL	±1.0%	±0.50%
TB-GP-12	50-300µL	5µL	±0.7%	±0.25%

	12 - CHANNEL ADJUSTABLE VOLUME PIPETTE			
Model	Volume Range	Increment	Maximum permissible systematic error (Inaccuracy)	Maximum permissible random error (Imprecision)
TB-GP-13	0.5-10µL	0.1µL	±1.5%	±1.50%
TB-GP-14	5-50µL	0.5µL	±1.0%	±0.50%
TB-GP-15	50-300µL	5µL	±0.7%	±0.25%

MANUAL PIPETTES

Mr. Lite™ - ULTRA-LIGHT ELECTRONIC PIPETTE

COMPENSATES HAND-WARMING EFFECT

"Mr.Lite™" is the only one product in the world which solves the
"Hand-Warming Issue" by automatically compensating dispensing volume

Features:
- Ultra-Light and Ergonomic Design
- Ease of Use: The world's first "Pen Grip" electronic pipette
- Solves the "Hand warming effect" by automatically compensating dispensing volume
- High Precision dispensing enabled by micro actuator
- Single and Multiple Dispensing modes
- Ideal for real-time PCR applications: Higher repeatability in real-time PCR results (dispensing accuracy effect on real-time PCR results : see Appendix)
- Solves inaccuracy issue because of hand-warming effect by automatically compensating the dispensing volume

SPECIFICATIONS

Item		Ultra-Light Electronic Pipette		
Dispensing Range		2-20μL	25-250μL	100-1000μL
Repeatability (CV)		20μL ≦ 0.4%	250μL≤0.15%	1000μL≤0.15%
		2μL ≦ 2.0%	25μL≤0.7%	50μL≤0.5%
Accuracy		20μL±1.0%	250μL±0.5%	1000μL±0.5%
		2μL±3.5%	25μL±1.5%	100μL±1.5%
Compatible Tips	**Four E's**	20μL(207)	250μL (703)	1000μL (806)
	Watson	10μL(207)	200μL (703)	1000μL (806)
			300μL (505)	1200μL (706)
	Gilson	-	DL300 20-300μL	DL1000 100-1000μL
	Eppendorf	epT.I.P.S 0.5-20μL	ep T.I.P.S 20-300μL	ep T.I.P.S 50-1000μL
Weight		Approximately 75g (including battery)		
Speed Levels		5 levels (Hi, 4, 3, 2, Lo)		
Battery Type		AAA Powered (Ni-MH) battery		

DISPENSING ACCURACY EFFECT ON REAL-TIME PCR RESULTS

Amplification plot of PCR MIXTURE
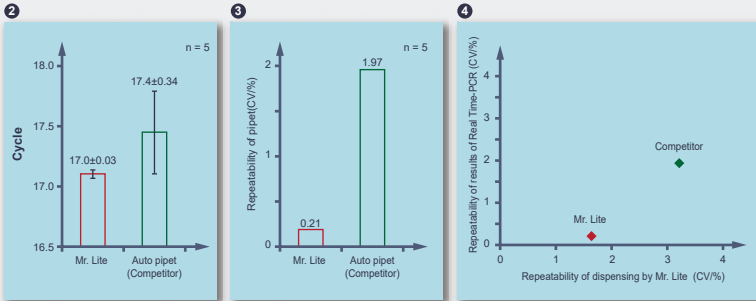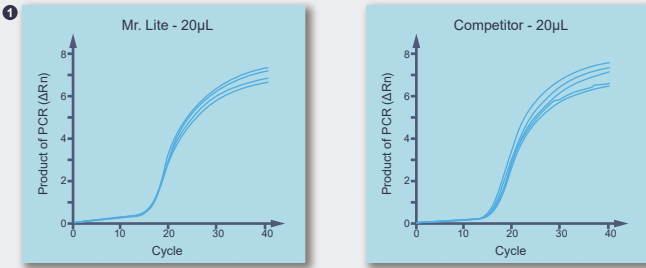
Dispensing Accuracy of the pipette has direct correlation with the Repeatability of real-time PCR Results

ELECTRONIC PIPETTE

FEATURES

● Compact, lightweight and ergonomic design.
● More advanced and user-friendly than manual pipette. Simplify pipetting and labor-saving
● High performance motor assures high precision, consistency and eliminates manual pipetting errors
● Large capacity battery enables longer operation time, easy to remove external battery.
● Optimized design of screen to reduce repeat operations
● Adjustable speeds for aspirating and dispensing
● Self-calibration
● A wide choice of pipetting modes

External Li-ion battery

1.44″ bright color tempered glass LCD screen

Aspiration and dispensing button/Confirm button

Adjustment knob

Ejector button

Mode switch button

Speed-adjusting button

Ergonomic design and corrosion resistant handle

Tag slot

304 stainless steel tip cone

SPECIFICATIONS

SINGLE-CHANNEL ELECTRONIC PIPETTE							
Model	**Volume Range**	**Increment**	**Volume (µL)**	**Inaccuracy**		**Imprecision**	
				±µL	**≤%**	**±µL**	**≤%**
EP0601121	0.2-10µL	0.1µL	15 10 2	0.025 0.075 0.1	2.5 1.5 1	0.015 0.035 0.04	1.5 0.7 0.4
EP0601131	0.5-20µL	0.1µL	10 20 10	0.15 0.15 0.2	7.5 1.5 10.04	0.04 0.05 0.06	2 0.5 0.3
EP0601141	2-100µL	0.5µL	50 100 20	0.2 0.4 0.6	2 0.8 0.6	0.1 0.15 0.15	1 0.3 0.15
EP0601151	5-200µL	1µL	100 200 50	0.5 0.8 0.75	2.5 0.8 0.75	0.2 0.025 0.04	1 0.25 0.2
EP0601161	10-500µL	2µL	250 500 100	0.8 1.2 2	1.6 0.48 0.4	0.35 0.6 0.8	0.7 0.24 0.16
EP0601171	50-1000µL	5µL	500 1000 500	2 2.5 4	2 0.5 0.4	0.6 1 1.5	0.6 0.2 0.15
EP0601181	0.1-5mL	25µL	2500 5000 1000	5 12.5 30	1 0.5 0.6	2.5 5 10	0.5 0.2 0.2
EP0601191	1-10mL	100µL	5000 1000 10000	50 50 60	5.0 1.0 0.6	6 10 16	0.6 0.2 0.16

8 - CHANNEL ELECTRONIC PIPETTE							
Model	**Volume Range**	**Increment**	**Volume (µL)**	**Inaccuracy**		**Imprecision**	
				±µL	**≤%**	**±µL**	**≤%**
EP0601211	0.2-10µL	0.1µL	1 5 10	0.025 0.06 0.008	2.5 1.2 0.8	0.015 0.02 0.025	1.5 0.4 0.025
EP0601221	5-100µL	0.5µL	10 50 100	0.2 0.4 0.5	2 0.8 0.5	0.1 0.12 0.15	1 0.24 0.15
EP0601231	10-300µL	2µL	30 150 300	0.75 1.05 1.2	2.5 0.7 0.4	0.24 0.3 0.45	0.8 0.2 0.15

12 - CHANNEL ELECTRONIC PIPETTE							
Model	**Volume Range**	**Increment**	**Volume (µL)**	**Inaccuracy**		**Imprecision**	
				±µL	**≤%**	**±µL**	**≤%**
EP0601411	0.2-10µL	0.1µL	1 5 10	0.025 0.06 0.008	2.5 1.2 0.8	0.015 0.02 0.025	1.5 0.4 0.025
EP0601421	5-100µL	0.5µL	10 50 100	0.2 0.4 0.5	2 0.8 0.5	0.1 0.12 0.15	1 0.24 0.15
EP0601431	10-300µL	2µL	30 150 300	0.75 1.05 1.2	2.5 0.7 0.4	0.24 0.3 0.45	0.8 0.2 0.15

ELECTRONIC PIPETTE FILLER

FEATURES

- Lightweight, ergonomic designs allow longer, fatigue-free pipetting
- Powerful motor fills a 25mL pipette in<5 seconds
- Overfilling and contamination are prevented by a 0.45 µm hydrophobic filter
- Autoclavable silicone pipette adapter
- Four speeds are available for aspirating and dispensing liquid
- Large color LCD display provides visual confirmation of remaining battery charge and speed settings
- Efficient lithium-ion battery offers long runtime on each charge
- Provides accurate, reproducible filling and dispensing from 0 .1 to 100 mL

1600 mAh

4 speeds

Large **LCD** display

0.45 µm hydrophobic filter
Prevents overfilling & contamination

Autoclavable silicone pipette adapter
for effective decontamination

SPECIFICATIONS

Model	EP101
Pipette Type	Glass or Plastic Pipette (0.1-100ml)
Speeds	4 levels
Noise	<50db
Display	LCD
Dimension (L*W*H)	56*146*40mm
Weight	235g
Permissible Ambient Temperature	5-40℃
Permissible Relative humidity	10%-95%, No condensation
Atmospheric Pressure	79.5 kPa-106 kPa
Adapter Input Voltage	100-240V AC
Adapter Frequency	50/60HZ
Adapter Output Current	2A
Adapter Output Voltage	5V DC
Battery	Lithium-ion
Battery Voltage	3.7V
Battery Capacity	1600mAH
Battery Life	About 10h
Battery Charging time	About 2h
Battery Weight	About 40g

PIPETTE CONTROLLER

FEATURES

- Works with 0.1-100mL graduated glass and plastic pipettes
- Filling and delivery are easily controlled with a small sensitive lever
- With integral and replaceable filter
- Precise pipetting control
- Blue, Green, Red, Yellow and Black are available

Blow-out and discharge liquid by pressing down on the lever

Filling and the fill rate can be varied with the pipetting lever

Delivery and the flow rate does not affect accuracy due to the valve system

PIPETTE PUMP

FEATURES
Precise aspiration and dispensing with one-hand operation
2mL in blue, 10mL in green and 25mL in red
Resistant to acids and alkalis
Easy to disassemble for cleaning

PIPETTE STAND

SPECIAL NOTCH DESIGN ENSURES COMPATIBILITY & EASY RETREIVAL

FEATURES

Compact design; Occupies less bench space
Compatible with all Major Pipette Brands
Stable and reliable structure

GENERAL LAB EQUIPMENT

MIXING
Vortex Mixers

SHAKING
Shakers

Rockers

STIRRING
Magnetic Hotplate Stirrers

Magnetic Stirrers

Overhead Stirrers

SEPARATION
Centrifuges

Rotary Evaporators

Diaphragm Vacuum Pump

Recirculating Chiller

TEMPERATURE CONTROL
Dry Bath Incubators

Water Baths

Contrast Media Warmer

MIXING

Vortex Mixers

Vortex Mixers ——— Mini Vortex Mixer

FEATURES
- Built-in light indication varies with the battery level and the working status (VM112)
- 1600mAh Built-in lithium battery can operate the mixer for around 2 hours (VM112)
- USB interface is available for charging mobile devices
- Excellent mixing capability can be guaranteed
- Orbital diameter of 6mm
- Fixed speed of 5600rpm
- Touch function

SPECIFICATIONS

Model	VM112	VM112B	Output voltage	15 VDC	15 VDC
Type of movement	Orbital	Orbital	Output power	10 W	10 W
Orbital diameter	6 mm	6 mm	Permissible ambient temperature	5-40°C	5-40°C
Speed	5600 rpm	5600 rpm			
Chargable	Yes	/	Permissible relative humidity	80%	80%
USB interface	Yes	Yes			
Battery capacity	1600 mAh	/	Protection class acc. to DIN EN60529	IP41	IP41
Battery operating time	2 Hour	/			
Voltage [VAC]	100-240	100-240	Dimension	168x150x85	168x150x85
Frequency	50/60 Hz	50/60 Hz	Weight [kg]	1	1

Vortex Mixers —— Mini Vortex Mixer

FEATURES

- Touch function
- Fixed speed of 5000rpm
- Orbital diameter of 6mm
- Excellent mixing capability; can mix full 50ml containers within 5 seconds
- Patented foot pad design can hold the vortex mixer firmly in place when mixing
- Low operation voltage (12V) for full protection
- Power supply is CE, cULus, CCC, SAA and FCC certified

SPECIFICATIONS

Model	MI0101001	Permissible ambient temperature	5-40°C
Rated voltage [VAC]	100-240		
Rated frequency [Hz]	50-60	Permissible relative humidity	80%
Output voltage [VDC]	12		
Output power [W]	7.2	Weight [kg]	1
Speed [rpm]	5000	Test tube size [mm]	Φ30
Operating time [%]	100	Dimensions: (Φ x H) [mm]	100 x 78
Protection class	II	Type of movement	Orbital
Pollution degree	2	Orbital diameter [mm]	6
Overvoltage category	II	Touch function	Yes
EN 60529 protection Class	IP42		

MIXING

Vortex Mixers ——— Vortex Mixer (Digital / Analog)

FEATURES

- Excellent mixing capability: can fully mix contents in 50ml tubes within 3 seconds
- Perfect dynamic balance design can eliminate any movement in mixing
- Various applications with different interchangeable attachments
- Brushless DC motor and sturdy iron/aluminum casting base
- Power supply is CE, cULus, CCC, SAA and FCC certified
- Low operation voltage (12V) for full protection
- Wide speed range of 0-3000rpm
- Orbital diameter of 6mm

- LED display for easy reading of time and speed
- Touch mode, timer mode and continuous mode are available

SPECIFICATIONS

Model	MI0101002D	MI0101002
Operation mode	Continuous / touch operation	Continuous / touch operation
Type of movement	Orbital	Orbital
Orbital diameter	6mm	6mm
Speed range	400-3000 rpm	0-3000rpm
Speed display	LED	Scale
Permissible ambient temperature	5-40°C	5-40°C
Permissible relative humidity	80%	80%
Protection class accordin to DIN EN 60529	IP21	IP21
Voltage [VAC]	200-240/115/100V compatible	200-240/115/100V compatible
Power [W]	36	36
Frequency [Hz]	50-60	50/60
Motor rating input [W]	30	30
Motor rating output [W]	15	15
Dimensions (W x H x D)	107x146x166	107x146x166mm
Weight [kg]	3	3

APPLICATION OF ACCESSORIES

ACCESSORY	ADJUSTABLE SPEED MODEL 400-3000RPM			
	TOUCH MODE		CONTINUOUS MODE	
	HIGH SPEED	LOW SPEED	HIGH SPEED	LOW SPEED
MI0101002-13	Y	Y	Y	Y
MI0101002-31+ MI0101002-14		Y		Y
MI0101002-32+ MI0101002-14		Y		Y
MI0101002-33+ MI0101002-14		Y		Y
MI0101002-34+ MI0101002-14		Y		Y
MI0101002-35+ MI0101002-14		Y		Y
MI0101002-36+ MI0101002-14+		Y		Y

ACCESSORIES

MI0101002-13
Standard top

MI0101002-14
Universal top plate

MI0101002-37
Erlenmeyer flask attachment
100-250ml, used with MI0101002-14

MI0101002-38
Platform pad for < Φ99mm
tubes & small vessels

MI0101002-31
Test Tube Attachment, 54 x Φ6mm,
used with MI0101002-14

MI0101002-32
Test Tube Attachment, 18 x Φ10mm,
used with MI0101002-14

MI0101002-33
Test Tube Attachment, 12 x Φ12mm,
used with MI0101002-14

MI0101002-34
Test Tube Attachment, 8 x Φ16mm,
used with MI0101002-14

MI0101002-35
Test Tube Attachment, 8 x Φ20mm,
used with MI0101002-14

MI0101002-36
Microtiter plate attachment,
used with MI0101002-14

SHAKING

Shakers

Rockers

Shakers —— Orbital & Linear Shaker

FEATURES

- Max. load capacity (with platform) is 7.5kg
- A wide choice of platforms for various applications
- Over-load and over-speed detection and protection
- LED display for easy-reading of speed and time simultaneously
- Stylish, High Strength tempered glass front panel
- Timer with Automatic Alarm function allows for unsupervised operation
- Brushless DC motor is maintenance-free and provides long service life
- Continuous operation and timed operation in range of 0- 99h59min are available
- Supports both orbital shaking and linear shaking and easy to switch the shaking mode
- Digital speed control system ensures stable movement and prevents splashing

SPECIFICATIONS

Model	MI0103002
Shaking motion	Orbital / Linear
Motor type	Brushless DC motor
Max. load capacity (with platform)	7.5kg
Platform Size	317*317mm
Orbital diameter	10mm
Speed display	LED
Speed range	20-500rpm
Time display	LED
Time range	0-99h59min
Operation type	Continuous / timed operation
Permissible ambient temperature	5-40°C
Permissible relative humidity	80%
Protection class acc. to DIN EN60529	IP21
Voltage	100-240VAC
Frequency	50/60Hz
Power	40W
Dimensions	450 x 400 x 105mm
Weight	11kg

|	
MI0103002-101 Universal attachment with 4 bars	**MI0103002-102** Fixing clip attachment for 25mL flasks

ACCESSORIES

MI0103002-102
Fixing clip attachment
for 25mL flasks
(16 fixing clips)

MI0103002-103
Fixing clipa ttachment
for 50mL flasks
(16 fixing clips)

MI0103002-104
Fixing clip attachment
for 100mL flasks
(16 fixing clips)

MI0103002-105
Fixing clip attachment
for 250mL flasks
(9 fixing clips)

MI0103002-106
Fixing clip attachment
for 500mL flasks
(4 fixing clips)

SHAKING

Shakers —— 3D Shaker

FEATURES

- 3D shaking with an angle of 9°
- Max. load capacity (with platform) is 5kg
- A wide choice of platforms for various applications
- LED display for easy-reading of speed and time simultaneously
- Timer with Automatic Alarm function allows for unsupervised operation
- Anti-slip mat on the platform keeps the samples in position during operation
- Continuous operation and timed operation in range of 0-99h59min are available.

9°
3D shaking

5kg
Max. load capacity
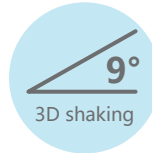
SPECIFICATIONS

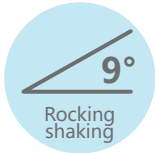| Model	SK208	Operation type	Continuous/timed operation
Shaking motion	3D shaking		
Tilt angle	9°	Voltage	100-240VAC
Max. load capacity	5kg (with platform)	Frequency	50/60Hz
Platform Size	317*317mm	Power	35W
Motor	Brushless DC motor	Permissible ambient temperature	5-40℃
Speed range	10-70rpm	Permissible relative humidity	80%
Speed display	LED	Protection class acc. to DIN EN60529	IP21
Time display	LED	Dimension	452x407x195mm
Time range	0-99H59min	Weight	12kg

MI0103002-101
Universal attachment with 4 bars

SK308-2-10
Dish platform with non-slip mat and fixing strings (6 pcs)

Shakers —— Rocking Shaker

FEATURES

- Rocking shaker with an angle of 9°
- Max. load capacity (with platform) is up to 10kg
- Brushless DC motor is durable and maintenance-free
- LED display for easy-reading of speed and time simultaneously
- Continuous operation and Timed operation in range of 0-99h59min are available
- Wide range of platforms can be used for petri dishes, flasks, culture flasks and tubes
- Anti-slip rubber mat in the platform can hold the sample containers effectively
  and prevent slipping

9°
Rocking shaking

10kg
Max. load capacity

SPECIFICATIONS

Model	SK308	Operation type	Continuous/timed operation
Tilt Angle	9°		
Max. load capacity	10kg (with platform)	Dimensions	452x407x153mm
Platform Size	324*317mm	Weight	9.7kg
Speed range	10-70rpm	Permissible ambient temperature	5-40°C
Motor type	Brushless DC motor	Voltage	100-240VAC
Speed display	LED	Frequency	50/60Hz
Timer	YES	Power	40W
Time display	LED	Permissible relative humidity	80%
Time range	1min-99h59min	Protection class acc. to DIN EN 60529	IP21

MI0103002-101
Universal attachment with 4 bars

SK308-2-10
Dish platform with non-slip mat and fixing strings (6 pcs)

Rockers —— 3D Rocker (Digital)

FEATURES

● Adjustable speed of 10–70rpm
● Max. Load capacity (with platform) is 5KG
● LED display for easy-reading of speed and time simultaneously
● No-slip mat on the platform keeps the items in position during operation
● Undulating three-dimensional shaking motion, with 0°-8° adjustable tilt angle
● Continuous operation and timed operation in range of 0-99h59min are available
● Ideal for generating the three-dimensional motion commonly preferred for molecular biology applications

SPECIFICATIONS

Model	SK420	Operation type	Continuous/timed operation
Shaking motion	3D shaking		
Tilt angle	0-8°	Voltage	100-240VAC
Max. load capacity	5kg (with platform)	Frequency	50/60Hz
Platform Size	330*330mm	Power	35W
Motor	Brushless DC motor	Permissible ambient temperature	0-40℃
Speed range	10-70rpm	Permissible relative humidity	97%
Speed display	LED	Protection class acc. to DIN EN60529	IP42
Time display	LED	Dimension	442x400x210mm
Time range	0-99H59min	Weight	9kg

Rockers ——— 3D Rocker (Analog)

FEATURES

- Compact design, can be used in incubators and cold rooms
- Adjustable speed 0 – 100 RPM
- Max. Load capacity (with platform) is 2KG
- No-slip mat on the platform keeps the items in position during operation
- Undulating three-dimensional shaking motion, with 0°-8° adjustable tilt angle
- Ambient operating temperature range is 5° C to 40° C, and the max. permissible humidity is 97%
- Ideal for generating the three-dimensional motion commonly preferred for molecular biology applications

SPECIFICATIONS

Model	SK410	Voltage	100-240VAC
Shaking motion	3D shaking	Frequency	50/60Hz
Tilt angle	0-8°	Power	5W
Max. load capacity	2kg (with platform)	Permissible ambient temperature	5°C-40°C
Platform Size	180*180mm	Permissible relative humidity	97%
Motor	Brushless DC motor	Protection class acc. to DIN EN60529	IP42
Speed range	0-100rpm	Dimension	190x190x160 mm
Operation type	Continuous	Weight	1.9kg

SHAKING

STIRRING

Magnetic Hotplate Stirrers

Magnetic Stirrers

Overhead Stirrers

Stirring
5" Multi Magnetic Hotplate Stirrers With Hub Control

FEATURES

- The hub controller comes with a 7-inch, high resolution LCD touch screen.
- Temperature, Speed and Run Time for each magnetic hotplate stirrer can be set and adjusted using the hub controller
- Bluetooth, 2.4G wireless and wired USB connectivity options for real-time data transmission and control provide increased flexibility for users
- Large capacity 5000mAh battery support long-term working.
- The maximum hotplate temperature is up to 310°C, and the safety temperature range is 50°C-325°C.
- PID controller ensures rapid heating and accurate temperature control
- The ceramic coated heating plate is resistant to high temperature, chemical corrosion and is easy to clean.
- Brushless DC motor is maintenance free and explosion proof.
- Automatically identifies external temperature sensor PT1000 and transfer to PT1000 operation mode.
- LED display on the hotplate stirrer displays equipment tracking number for easy identification, speed, and temperature
- The controller adopts magnetic charging, which is convenient and fast.

DIMENSION

Item	Length	Width	Height
Controller	263	126	40
Charging stand	167	134	92
Magnetic hotplate stirrer	166	166	106

SPECIFICATIONS

MAGNETIC HOTPLATE STIRRERS	
Model	MS321
Set-up plate material	Aluminium alloy with ceramic coating
Set-up plate dimensions	Φ5 inches
Heating temperature range	Room temp. to 310°C
Speed range	50-1500RPM
Safety temperature	50°C to 325°C
Speed control accuracy	±1RPM
Temperature control accuracy	±1°C
USB interface	Yes
Time range	99H59min
Number of magnetic	Wired connections: 6
hotplate stirrers	Wireless connections: no limit
Motor input	24V，30W
Motor	Brushless DC motor
External temperature sensor	Yes
Max. stirring quantity (H_2O)	20L
Power supply	200-240/100-120 VAC；50/60Hz
Stirring bar	55MM
Power switch	Yes
Display	LED
Dimension	166x166x106mm

HUB CONTROLLER	
Display	7-inch touch screen
Rechargeable battery	Lithium polymer battery: 7.4V
Charging time	3 hours
Alarm	buzzer
Bluetooth	Yes
Battery capacity	5000mAh
Battery life	8H
Main controller dimension	263x126x40mm

CHARGING STAND	
Power input	200-240/100-120 VAC; 50/60Hz
Interface	6 x USB 1.1 interface
Power input interface	DC port
Wireless	2.4G Wireless
USB cable	2-meter cable x 6
Bluetooth	Yes
Wireless effective connection distance	10m

Stirring —— 7" Magnetic Hotplate Stirrer

FEATURES
- Hot surface warning at 50°C to prevent burns
- Independent digital wheels adjust the speed and temperature
- LED digital displays the target and actual speed and temperature
- Temperature is up to 510°C and the safety temperature is 50-550°C
- The external temperature sensor PT1000 enables precise control: accuracy of ±1°C
- PID controller provides rapid heating and ensures long-time continuous operation
- Digital process timer allows for unsupervised operation and can be set from 0 to 99h59min
- Double over-temperature protection by the hardware and software provides high safety and reliability
- Stainless steel with ceramic coated heating plate can be resistant to high temperature, impact, and thermal shock
- Fully enclosed alloy casing provides high temperature resistance, excellent heat dissipation.
- Powerful stirring performance supports large stirring quantities up to 20L (H_2O) and ensures a stable running of 5L (H_2O) with the Φ8.5*50mm stirring bar at the max. speed of 1500rpm

SPECIFICATIONS

Model	MI0102005
Stirring position	1
Set-up plate dimensions [mm]	185 x 185
Set-up plate material	Stainless steel with ceramic coated
Motor type	Brushless DC motor
Max. stirring quantity (H_2O) [L]	20
Max. stirring bar [L x Φ, mm]	80 x Φ9.5
Motor rating input [W]	30
Motor rating output [W]	20
Speed range[rpm]	50-1500
Speed display	LED
Heating output [W]	1000
Heating temperature range [°C]	Room temp.-510
Temperature display	LED
Temperature display accuracy [°C]	±0.1
Safety temperature [°C]	50-550
External temperature sensor	PT1000
Control accuracy with external temperature sensor PT1000[°C]	±1
Control accuracy with internal temperature sensor PT1000[°C]	±1(<100°C), 1%(≥100°C)
Hot surface warning	50°C
Time display	LED
Time range	0-99h59m
Dimensions [W x D x H, mm]	220 x 350 x 100
Protection class according to DIN EN60529	IP42
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity	80%
Voltage [VAC]	200-240/100-120
Frequency [Hz]	50/60
Power [W]	1050

Stirring —–— 5" Magnetic Hotplate Stirrer (Digital)

FEATURES

- LED digital display for easy reading
- Hot surface warning to prevent burns
- High safety and strong stirring performance
- 3D digital wheel adjustment of speed and temperature
- Brushless DC motor is maintenance free and explosion proof
- Temperature is up to 310°C and the safety temperature is 50-320°C
- Double internal temperature sensor PT1000 and one external PT1000
- Enclosed heating plate design reduces the risk of liquid splashing into the equipment
- Optimized PID program control provides extremely high accuracy of temperature and speed
- Automatically identifies temperature sensor PT1000 and transfer to PT1000 operation mode
- Stainless Steel with ceramic coated heating plate allows for optimum heat transfer and easy to clean

SPECIFICATIONS

Model	MI0102002
Stirring position	1
Set-up plate dimensions [mm]	Ø 137
Set-up plate material	Stainless steel with ceramic coated
Motor type	Brushless DC motor
Max. stirring quantity [H_2O, L]	20
Max. stirring bar [L x Φ, mm]	55*10
Motor rating input [W]	30
Motor rating output [W]	20
Speed range[rpm]	50-1500
Speed display	LED
Heating output [W]	600
Heating temperature range	Room temp.-310°C
Temperature display	LED
Temperature display accuracy	±0.1
Safety temperature [°C]	50-325
External temperature sensor	PT1000
Control accuracy with external temperature sensor PT1000[°C]	±1
Hot surface warning	50°C
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity	80%
Protection class according to DIN EN 60529	IP 42
Voltage [VAC]	200-240/100-120
Frequency [Hz]	50/60
Power [W]	650
Dimensions [W x D x H, mm]	159 x 253.5 x 93
Weight [kg]	2.7

Stirring
5" Magnetic Hotplate Stirrer (Economy version)

FEATURES

- LED digital display for easy reading
- Hot surface warning to prevent burns
- High safety and strong stirring performance
- 3D digital wheel adjustment of speed and temperature
- Brushless DC motor is maintenance free and explosion proof
- Temperature is up to 310°C and the safety temperature is 50-320°C
- Double internal temperature sensor PT1000 and one external PT1000
- Enclosed heating plate design reduces the risk of liquid splashing into the equipment
- Optimized PID program control provides extremely high accuracy of temperature and speed
- Automatically identifies temperature sensor PT1000 and transfer to PT1000 operation mode
- Stainless Steel with ceramic coated heating plate allows for optimum heat transfer and easy to clean

SPECIFICATIONS

Model	MI0102003
Stirring position	1
Set-up plate dimensions [mm]	Ø 137
Set-up plate material	Stainless Steel with ceramic coated
Motor type	DC motor
Max. stirring quantity [H_2O, L]	5
Max. stirring bar [L x Φ, mm]	55x10
Motor rating input [W]	3
Motor rating output [W]	2.5
Speed range[rpm]	100-1500
Speed display	LED
Heating output [W]	600
Heating temperature range	Room temp.-280°C
Temperature display	LED
Temperature display accuracy	±0.1
Safety temperature [°C]	50-320
External temperature sensor	Optional
Control accuracy with external temperature sensor PT1000[°C]	±1
Hot surface warning	50°C
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity	80%
Protection class according to DIN EN 60529	IP 42
Voltage [VAC]	200-240/100-120
Frequency [Hz]	50/60
Power [W]	630
Dimensions [W x D x H, mm]	268 x 160 x 85
Weight [kg]	1.8

Stirring
5" Magnetic Hotplate Stirrer (Analog)

FEATURES

- Hot surface warning to prevent burns
- High safety and strong stirring performance
- Double internal temperature sensor PT1000
- 3D digital wheel adjustment of speed and temperature
- Brushless DC motor is maintenance-free and explosion-proof
- Temperature is up to 310°C and the safety temperature is 50-320°C
- Enclosed heating plate design reduces the risk of liquid splashing into the equipment
- Optimized PID program control provides extremely high accuracy of temperature and speed
- Stainless Steel with ceramic coated heating plate allows for optimum heat transfer and easy to clean

SPECIFICATIONS

Model	MI0102010
Stirring position	1
Set-up plate dimensions [mm]	Ø 137
Set-up plate material	Stainless steel with ceramic coated
Motor type	Brushless DC motor
Max. stirring quantity [H_2O, L]	20
Max. stirring bar [L x Φ, mm]	55*10
Motor rating input [W]	30
Motor rating output [W]	20
Speed range[rpm]	50-1500
Speed display	Scale
Heating output [W]	600
Heating temperature range	Room temp.-310°C
Temperature display	Scale
Temperature display accuracy	/
Safety temperature [°C]	50-325
External temperature sensor	/
Control accuracy with external temperature sensor PT1000[°C]	/
Hot surface warning	50°C
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity	80%
Protection class according to DIN EN 60529	IP 42
Voltage [VAC]	200-240/100-120
Frequency [Hz]	50/60
Power [W]	650
Dimensions [W x D x H, mm]	159 x 253.5 x 93
Weight [kg]	2.7

Stirring —— 10-position Magnetic Hotplate Stirrer

FEATURES

- 10 positions supports synchronous heating and stirring
- Wear free magnetic coils and the magnetic coil technology provides noiseless and consistent stirring on all positions
- The max. heating temperature is 120°C and the sample temperature can be up to 70°C at maximum
- The max. speed is 1200rpm and the increment is 10rpm
- Economic mode can have the work plate automatic heating at low temperature
- Stainless steel with silicone work plate is skid-resistant and allows excellent heating uniformity
- Comes with Reverse Rotation option

SPECIFICATIONS

Model	MS310
Stirring position	10
Work plate material	Stainless steel with silicone
Work plate dimension [L x W, mm]	470×205
Driving mode	Electromagnetic drive
Max. stirring quantity [L]	0.4 x 10
Heating temperature [°C]	Room temp. - 120
Safety temperature [°C]	150
Speed range [rpm]	0-1200
Speed increment [rpm]	10
Stirring position distance [mm]	93
Max. magnetic bar [L, mm]	30
Speed display	LED
Time display	LED
Economic mode	Yes
Adjustable Reverse rotation	Yes
Operation type	Continuous / timed operation
Time range	0-99h59min
Voltage [VAC]	100-120/200-240
Frequency [Hz]	50/60
Heating Power [W]	500
Power [W]	580
Permissible ambient temperature [°C]	5-40
Permissible relative humidity	80%
Protection class	IP30
Dimension [L x W x H, mm]	630x210x70
Weight [kg]	10

Stirring —— 5" Glass Top Magnetic Stirrer

FEATURES

- Max stirring quantity (H_2O) is 5000mL
- Wide speed range from 50 to 1500rpm
- Touch key is more smart and user-friendly
- Wear-free running provides longer life time
- LED display offers easy reading of the speed and time
- Pioneering and patented design of electromagnetism-driven mechanism
- No risk of demagnetization of the permanent magnet as the traditional design
- Automatic reverse rotation every 30 seconds allows excellent mixing performance
- No concern about the mechanical wear and noise of the motor as the traditional design
- Tempered glass working plate is waterproof; strong acid and alkali resistant and very easy to clean

SPECIFICATIONS

Model	MI0102011	Permissible ambient temperature [°C]	5 - 40 °C
Set-up plate dimensions	5 Inch		
Set-up plate material	Tempered glass	Permissible relative humidity	80%
Stirring Mechanism	Electromagnetic Drive	Protection class according to DIN EN 60529	IP65
Max. stirring quantity [H_2O]	5000mL (3000mL at 1500rpm)		
		Voltage [VAC]	100-240
Speed range	50-1500	Frequency [Hz]	50/60
Speed display	LED	Power [W]	25
Time display	LED	Dimensions	172x247x30mm
Time range	0-99H99Min	Weight [kg]	1.627

Stirring ——— Ultra flat Mini Magnetic Stirrer

FEATURES

- Speed range of 15-1500rpm
- Max stirring quantity [H_2O] of 1000mL
- Touch key is more user-friendly and durable
- OLED display provides easy reading of the speed and time
- Automatic reverse rotation every 30 seconds provides excellent mixing performance
- The most advanced magnetic coil technology allows for wear-free drive without moving parts
- Special black tempered glass set-up plate is waterproof, shatterproof; very easy to clean and dissipates heat

Waterproof   Shatterproof   Easy to Clean   Dissipates Heat Quickly

SPECIFICATIONS

Model	MI0102001D	Set-up surface [mm]	Φ100
Stirring positions	1	Permissible ambient temperature[°C]	5-40
Working plate material	Tempered glass		
Speed range [rpm]	15-1500	Permissible relative humidity	80%
Display	OLED	DIN EN60529 protection class	IP65
Max. stirring quantity [H_2O]	1000ml	Voltage [VAC]	100-240
Time range	0-99H99Min	Frequency [Hz]	50/60
Motor rating input [W]	5	Input power [W]	6
Motor rating output [W]	3	Dimension [W x D x H, mm]	117 x 12 x 180
Max. stirring bar [mm]	25	Weight [kg]	0.3

STIRRING

Stirring —— Mini Magnetic Stirrer

FEATURES

- Speed range of 15-1500rpm
- Slip-proof and stable stand
- High IP protection class (IP65)
- Automatic reverse rotation for excellent mixing performance
- Set-up plate and casing are made from chemically resistant materials

SPECIFICATIONS

Model	MI0102001	Overvoltage category	II
Rated voltage	100-240VAC	EN 60529 protection class	IP65
Rated frequency	50-60Hz	Ambient humidity (relative)	80%
Output voltage [VDC]	12	Ambient temperature	5-40°C
Output power [W]	Min.3	Transport temperature	-25°C to +70°C
Stirring mechanism	coil drive	Storage temperature	-10°C to +70°C
Speed range [rpm]	15-1500	Material	Front membrane sheet Polyester
Stirred quantity (max)	800mL	Weight	0.35kg
Operating time	100%	Installed weight (max)	2kg
Protection class	II	Set-up surface	Φ100mm
Pollution degree	2	Dimensions (W x D x H)	115x175x12mm

Stirring —— 5" Led Digital Magnetic Stirrer

FEATURES

- Digital process timer allows for unsupervised operation and can be set from 1min to 99h59min
- Stainless Steel with ceramic coated working plate is chemical-resistant and scratch-resistant
- Brushless DC motor is maintenance-free and explosion-proof
- 3D digital wheel adjustment of speed and temperature
- LED digital display for easy setting and reading
- Speed range is 50-1500rpm

SPECIFICATIONS

Model	MI0102008
Stirring positions	1
Set-up plate dimensions [mm]	Ø 137
Set-up plate material	Stainless steel with ceramic coated
Motor type	Brushless DC motor
Max. stirring quantity [H_2O, L]	20
Max. stirring bar [L x Φ , mm]	55*10
Motor rating input [W]	30
Motor rating output [W]	20
Speed range [rpm]	50-1500
Speed display	LED
Time display	LED
Time range	1min - 99h59min
Permissible ambient temperature [°C]	5-40
Permissible relative humidity	80%
Protection class according to DIN EN 60529	IP 42
Voltage [VAC]	200-240/100-120
Frequency [Hz]	50/60
Power [W]	40
Dimensions [W x D x H, mm]	159 x 253.5 x 93
Weight [kg]	2.7

Stirring —— Overhead Stirrer (20L / 40L / 50L)

FEATURES

● Compact, Lightweight and Sleek design
● Speed Range: 50rpm~2000rpm
● Provides constant speed even with changes in viscosities of the sample
● Wide LED display for precise speed adjustment and monitoring
● LED display shows actual and set speeds alternately
● Overload protection system if the torque exceeds the stirrer ratings
● Safety circuits: Circuit auto cut-off feature for additional protection
● Maintenance-free Brushless DC motor
● The through-shaft housing design allows for easy impeller height adjustments and thereby less downtime in between sample changes

OHS-20D

OHS-40D   OHS-60D

SPECIFICATIONS

Model	OHS-20D	OHS-40D	OHS-60D
Voltage [V]	100 V-240V	100 V-240V	100 V-240V
Frequency [Hz]	50/60	50/60	50/60
Max. input power [W]	72	145	220
Speed range under nominal load [rpm]	0/50-2000	0/50-2000	0/50-2000
Speed increment [rpm]	Stepless, 10rpm	Stepless, 10rpm	Stepless, 10rpm
Speed accuracy	±1%	±1%	±1%
Max. torque at stirrer shaft [N.cm]	20	40	60
Max. stirring quantity (H_2O)	20L	40L	50L
Max. Viscosity [mPas]	10,000	50,000	50,000(2000rpm) 100,000(1000rpm)
Speed display	LED	LED	LED
Protection class according to DIN EN 60529	IP42	IP42	IP42
Protection at overload	Yes	Yes	Yes
Motor protection	Yes	Yes	Yes
Over temperature protection	Yes	Yes	Yes
Permissible ambient temperature	5-40℃	5-40℃	5-40℃
Permissible relative humidity	80%	80%	80%
Clamping chuck-clamping range	0.5-10mm	0.5-10mm	0.5-10mm
Dimensions (WxDxH) (without extension arm) [mm]	71x174x240	71x174x240	71x174x240
Weight (with extension arm and clamping chuck) [kg]	2.3	2.5	2.5

ACCESSORIES

PTFE-COATED STIRRER

CENTRIFUGAL STIRRER OHS-20D-0101 Shaft length: 35cm Shaft diameter: 0.6cm Stirrer diameter: 8.8cm	STRAIGHT STIRRER OHS-20D-0102 Shaft length: 35cm Shaft diameter: 0.6cm Stirrer diameter: 6.7cm
4-BLADED STRAIGHT STIRRER OHS-20D-0103 Shaft length: 35cm Shaft diameter: 0.6cm Stirrer diameter: 6.4cm	3-BLADED PROPELLER STIRRER OHS-20D-0104 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 5.6cm
4-BLADED PROPELLER STIRRER OHS-20D-0105 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 6cm	PADDLE STIRRER OHS-20D-0106 Shaft length: 35cm Shaft diameter: 0.6cm Stirrer diameter: 6.7cm

304 STAINLESS STEEL STIRRER

ANCHOR STIRRER OHS-20D-0201 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 5cm	CENTRIFUGAL STIRRER OHS-20D-0202 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 9cm
3-BLADED PROPELLER STIRRER OHS-20D-0203 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 5cm	4-BLADED STIRRER OHS-20D-02-008 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 5cm
DISSOLVER STIRRER OHS-20D-0204 Shaft length: 35cm Shaft diameter: 0.8cm Stirrer diameter: 6cm	

OTHER ACCESSORIES

UNIVERSAL PLATE STAND OHS-ST Material: 304 stainless steel Dimensions[W x D x H]: 32 x 20 x 80 cm	CHUCK WITH KEY OHS-MC Material: 304 stainless steel Clamping range: 0.5-10 mm
CHUCK BY HAND OHS-HC Material: plastic + 304 stainless steel Clamping range: 0.5-10 mm	STRAP CLAMP FOR FIXING VESSEL OHS-CT Material: 304 stainless steel Vessel clamping range: 80-180 mm

STIRRING

SEPARATION

Centrifuges

Rotary Evaporators

Diaphragm Vacuum Pump

Recirculating Chillers

High-speed Refrigerated Centrifuge

The CF321 HIGH-SPEED REFRIGERATED CENTRIFUGE features state of the art cooling technology which ensures high temperature accuracy and provides rapid cooling for temperature sensitive samples. The ergonomically designed device comes with a 5-inch touchscreen and an intuitive user interface.

The centrifuge has a maximum capacity of 12 x 5mL and reaches a maximum speed of 21,300×g (15,000 rpm).

FEATURES

- Multiple rotors suited for various applications: 24×1.5/2.0 mL tubes, 18×1.5/2.0mL tubes or spin columns, 12x5mL tubes, 4×8×0.2mL PCR strips/tubes (for 4×0.2 mL PCR strips or 32×0.2mL PCR tubes)
- Maximum Relative Centrifugal Force (RCF) is up to 21,300 × g (15,000 rpm)
- The standard rotor comes with aerosol-tight lid that ensures safe handling of hazardous samples.
- Double lock lid design offers improved safety, and the lid can be easily closed with light pressure.
- A 5-inch, high resolution touch screen with wide viewing angle and an intuitive user interface provides excellent user experience.
- Streamlined bar-shaped indicator light changes color or flashes to indicate working status, warning, and alarms.
- With wide temperature control range: -10°C to +40°C
- With a fast pre-cooling time (Room Temperature to 4°C in only 8 minutes), the centrifuge is ready for use in a very short time.
- Ensures reliable cooling at 4°C, even at maximum rotor speed .
- Built-in condensate tank to prevent the accumulation of condensate in the rotor chamber.

SPECIFICATIONS

Model	CF321
Name	High-speed refrigerated centrifuge
Display	5-inch touch screen
Speed Range (RPM)	500 to 15,000 rpm; increment: 100rpm
Max. RCF	21,300 × g (15,000 rpm)
Rotor Capacity	24×1.5/2.0mL tubes, 18×1.5/2.0mL tubes or spin columns, 12×5mL tubes, 4×8×0.2mL PCR strips/tubes
Time Setting Range	30s-99h59min, with continuous run function
Motor Type	Brushless DC motor
Power Supply	AC220-230V 50-60Hz
Power (W)	600
Speed accuracy (RPM)	±100
Dimensions (mm)	520× 305× 285
Weight (kg)	30 kg
Noise level (dB)	<65dB(A)
Deceleration time	15 s
Acceleration time	15 s
Cooling	Refrigerated
Temperature control range	-10 °C to +40 °C
Maximum speed temperature control	4 °C (continuous)
Pre-cooling Time (from Room Temperature)	≤5 minutes from RT (~21°C) to 4°C
SOFT brake function	Yes
Condensate drain function	Built-in condensate tank

Standard	Optional		
24×1.5/2.0mL	18×1.5/2.0mL	12×5mL	4×8×0.2mL

Centrifuges ——— High-speed Micro Centrifuge

FEATURES

- Brushless DC motor
- PULSE offers quick spins
- High speed accuracy of ±20rpm
- Large LED display for easy reading
- Fast acceleration and braking system
- Automatic lid open upon running completion
- Timer starts when the unit reaches the set speed
- Dedicated 3D digital wheels to adjust speed and time
- Programmable operation can store up to 10 programs
- Motor-driven lid locking system for safety and reliability
- Heavy base eliminates vibration and movement when running
- Powerful centrifugal force of 15100 x g and Max. speed of 15000rpm
- Unique air flow system, keeps samples cool
- Rotor capacity: 1.5/2.0/0.2/0.5mL X 12

SPECIFICATIONS

Model	CF0201002
Speed range [rpm]	500-15000rpm, increment: 100rpm
Max. RCF [x g]	15100, increment: 100
Speed accuracy [rpm]	±20
Rotor capacity	0.2ml/0.5ml/1.5ml/ 2ml×12
Time range	Timed operation:30s-99m Continuous operation
Motor	Brushless DC motor
Safety devices	Door interlock, Over-speed detection; Over-temperature detection; Automatic self-diagnostics
Power	Single-phase, AC110V-240V, 50Hz/60Hz, 3A
Noise level [dB]	≤56
Acceleration/Braking time[Sec]	30s↑10s↓
Dimensions [mm]	256 x 225 x 155
Weight [kg]	6
Additional features	Speed/RCF switch; Short-time run function; sound-alert function

Centrifuges ———— Mini Centrifuge

FEATURES

● Low noise ≤50dB
● Fixed speed of 5400rpm
● Click-on design allows for very easy rotor change without tools
● Low operation voltage and door open braking system
● Equipped with 2 interchangeable rotors of 1.5/2mL x 6 and PCR 8 x 2
● Enclosed design reduces the risk of liquid splashing into the equipment
● Excellent dynamic balance keeps stable running even if the rotor is unbalanced on two sides

SPECIFICATIONS

Model	CF0201001	Rotor capacity		0.2/0.5/1.5/2.0mL x 6
Max. Speed[rpm]	5400			0.2mL x 16 PCR strips
Max. RCF[xg]	2000			0.2mL x 2 PCR 8 strips
Input	100-240VAC, 50/60HZ	Noise level [dB]		≤50
Output	24VDC, 2A	Dimension		6.9" x 5.5"
Run time	Continuous operation	Weight [kg]		1.85
Driving motor	DC motor			

Centrifuges —— Clinical Centrifuge

FEATURES

- Micro-computer control gives high speed control accuracy and excellent centrifugation performance
- Brushless DC motor is maintenance-free and provides rapid acceleration and deceleration
- Rotor is made of tough, high-strength flame retardant material and is impact resistant, wear resistant and chemical resistant.
- Large LED display can show the running process and the error warning
- Independent digital wheels adjust the speed and time
- Two operation modes are available; timed operation of 30s-99min and continuous operation
- Run parameters can be adjusted after the set speed is reached
- The door interlock design makes the door open automatically after a beep when the run is completed, which can prevent samples overheating
- Performs self-diagnostics every time the device is turned on, and also displays the accumulated running time together with parameters of the last run.
- Excellent dynamic balance ensures quiet and stable running
- The short spin function is used for quick spins by pressing and holding PULSE key

SPECIFICATIONS

Model	CF0202003
Speed range [rpm]	300-4500, increment: 100
Max. RCF [x g]	2200
Speed accuracy [rpm]	±45
Rotor capacity	10mL/7mL/5mLx12; 15mLx6
Time range	Timed operation: 30s-99min; Continuous operation
Motor	Brushless DC motor
Safety devices	Door interlock; Over-speed detection; Over-temperature detection; Automatic self-diagnostics
Power	Single-phase, AC110V-240V, 50Hz/60Hz, 2.5A
Acceleration/Braking time[Sec]	20s↑ 15s↓
Dimensions [mm]	460 x 310 x 270
Additional features	Speed/RCF switch; Short-time run function; sound-alert function

Centrifuges —— Hematocrit Centrifuge

FEATURES

- 5 inch HD touch screen, with intutive user interface for setting and viewing parameters.
- Fast and convenient operation (compared to traditional keypad and knob control devices).
- Microprocessor control, DC brushless motor for stable and low noise operation.
- Multiple user-defined program options.
- Parameters can be set during a run.
- Door lid interlock for improved safety.
- Compact Design and efficient performance.
- 10 Acceleration and 11 Deceleration rates.

SPECIFICATIONS

Model	HC001
Max Speed	16500 rpm
Max RCF	18360 xg
Max Capacity	12×5 ml
Speed Accuracy	±30 rpm
Time Setting Range	1s ~ 99 min 59s ec
Noise	≤ 65dB (A)
Power Supply	AC 220±22V 50Hz
Power Consumption	250 W
Dimension (WxDxH)	320×370×235 (mm)
Packing Dimension (WxDxH)	530×410×290 (mm)
Net Weight	11 kg

Rotary Evaporators

The RV131 Rotary Evaporator has wide applications in chemical, pharmaceutical, and biotechnology industries, R&D labs, and for quality assurance. The Large LED display along with touch keys and an adjustable knob helps you easily set process parameters. The Double-layer vertical condenser with 1500cm^2 cooling surface provides efficient vapor collection and sample recovery.

FEATURES

● Large LED display to easily set and monitor process parameters
● The touch keys and adjustable knob let you easily set the Rotation speed, heating temperature, operation time, and cycle times (clockwise and/or counterclockwise cycles).
● The device also comes with a mistouch prevention lock to avoid changes through accidental touch
● The adjustment knob can be turned fast or slow to change parameters rapidly or accurately.
● The 5L water-oil heating bath with heating temperature range of up to 180°C (oil)
● The device comes with a Brushless DC motor with rotation speeds ranging from 20 to 320 rpm
● Comes with PID temperature controller, overheat protection, dry-burning protection, and automatic power-off functions
● Double-layer vertical condenser with 1500cm^2 cooling surface for efficient vapor collection and sample recovery
● High elastic graphite filled PTFE seal and compression spring bring excellent sealing as well as high-temperature, corrosion, and abrasion resistances.
● Manual lift for precise positioning of the glassware; the lifting height ranges up to 180mm and the tilt angle range is 0-360° (evaporation flask can be positioned on the left or right side)
● Ejection mechanism ensures easy removal of evaporating flask

SPECIFICATIONS

Model	RV131
Input Voltage, Frequency	AC 100V-240V，50/60Hz
Motor Type	Brushless DC Motor
Max. Input Power of - Main Unit	48W
Heating Power	1300W
Temperature Range	Room temp.+5°C~90°C（Water） Room temp.+5°C~180°C（Oil）
Control Accuracy	Water±1.5°C, Oil ±3°C
Rotation Speed	20 – 320 RPM
Speed Control/Increment	Stepless speed Control. Increment: 1RPM
Clockwise and Anti-clockwise	Yes
Rotation Time Interval	5-999 s
Time Setting Range	1-999 min
Tilt Angle of Evaporation flask	0-360°
Lifting method	Manual
Stroke Displacement	180mm
Vacuum Degree	Max. 4mbar（3mmHg）
Heating Bath Capacity	5L
Display	LED
[DIN_EN60529] Protection Class	IP42
Overload Protection	Yes
Over-temperature Protection	When the temperature of PT1000 temperature sensor is 5°C more than the set temperature, the heating automatically shuts off
Permissible Ambient Temperature	5-40°C
Permissible Relative Humility	80%
Dimension (WxDxH)	Main Unit: 400x320x540mm Heating Bath: 300x300x205mm
Weight (without glassware)	Main Unit: 8.6KG; Heating Bath: 3KG

Large LED display
Easily set and monitor process parameters

Touch keys and adjustable knob
Rotation speed, heating temperature,
operation time, and cycle times control.

Mistouch prevention lock
Avoid changes through accidental touch

Double-layer vertical condenser with
1500cm² cooling surface
For efficient vapor collection &
sample recovery

0-360° tilt angle
(evaporation flask can be positioned
on the left or right side)

Graphite filled PTFE seal and
compression spring

Provides high-temperature,
corrosion, and abrasion resistances.

Manual lift height adjustment
range up to
180mm

Precise Positioning

Diaphragm Vacuum Pump

Vacuum Pump RVP01 features oil-free pumping, low noise level, high efficiency and long lifespan. It is an ideal laboratory equipment for vacuum filtration, vacuum distillation, rotary evaporation, vacuum drying, centrifugal acceleration, solid-phase extraction, and other application requiring chemical resistance.

FEATURES

- This highly efficient pump works without any medium like oil, and thus cause no pollution. Inlet Filters are installed to prevent contamination and ensure clean air.
- Advanced technology & materials are adopted for ideal vacuum degree and airflow rate.
- The machine will power off automatically when the pump temperature reaches 130°C. Such overheat protection can prevent motor from damage because of long-time operation.
- Made of nitrile rubber, the diaphragm is durable and anti-corrosive. The friction-free operation will not cause any heat or abrasion to the diaphragm.
- The automated cooling and exhaust system can work continuously around the clock.
- Adjustable pressure valve allows for easy control over vacuum degree.
- High-quality axletrees facilitate steady running and low noise.
- The pump and the components in contact with air are coated with PTFE, making the device resistant to chemical corrosion and extreme temperature between -190~260°C.
- It features compact size and light weight and is easy to maintain.
- The smooth instrument surface is free from accumulation of most impurities and particles.

SPECIFICATIONS

Model	RVP01
Pumping speed	30 L / Min
Ultimate pressure vacuum	≥0.95Mpa 50mbar
Voltage rating	220 V / 110 V; 50 Hz / 60 Hz
Housing temperature in operation	< 55℃
Motor power	160 W
Inlet diameter	6 mm
Outlet	Silencer
Permissible ambient temperature	7-40 ℃
Pump heads	2
Dimensions (L/W/H)	300 x 120 x 235 mm
Noise	< 60 db
Weight	9 kg
Diaphragm valve material	NBR

APPLICATION

● Laboratory use
● Medical and pharmaceutical analysis
● Chemical engineering
● Biochemical pharmaceutical
● Food inspection
● Forensic science
● Other application requiring chemical resistance.

Recirculating Chiller

Recirculating Chiller CH800 provides an economic and environmentally friendly cooling solution for many laboratory applications. With intelligent PID control, the device achieves excellent temperature stability and is suitable for a wide range of applications including cooling of rotary evaporators, reactor blocks, vapor barriers, or heat exchangers.

The chiller, also known as recirculating chiller, is a cooling device that provides a continuous supply of water at a constant temperature and pressure. It cools water through the cooling system, delivers cool water to the equipment required via pump to remove heat and flows back to the bath.

FEATURES

- Fast cooling: Requires only 30 minutes to cool down from room temperature (25°C) to -20°C
- Wide temperature range: from -20°C to room temperature (ambient water temperature).
- Compact design suitable for laboratory benches and fume hoods
- PID control and advance proportional cooling provides excellent temperature stability.
- Stainless steel water bath with easily visible water level indicator
- Convenient liquid filling and draining, and overflow port protection for the tank.
- 4.3-inch LCD touchscreen for easy setting and monitoring
- Over-current protection for the cooling system to avoid compressor overload.
- Overheating protection for the bath, with audio alarm.
- Automatic recovery function after power outage; recovers previous operation parameters
- Uses Environmental-friendly refrigerant
- Comes with RS485 communication interface

SEPARATION

APPLICATION

Chillers are used in laboratories and medical/research institutions for a variety of applications including:

● Analytical instrumentation: viscometer, Soxhlet extractor, electrophoresis.
● Equipment cooling: distillation system, concentrator, extractor, condensing reflux unit, etc.
● MRI machines, CT scanners, Radiation Therapy Machines
● Blood Cooling Systems, Biograph Systems,
● Linear Accelerator, lasers, ultrasonic crusher, continuous flow analyzer, etc.

SPECIFICATIONS

Model	CH800
Working temperature range	-20°C RT
Cooling capacity (@20°C)	750W
Cooling capacity (@10°C)	650W
Cooling capacity (@0°C)	500W
Cooling capacity (@-10°C)	400W
Cooling capacity (@-20°C)	200W
Time to cool from RT (25°C) down to - 20°C	≤30min
Pump Flow Max.	22 L/min
Pump pressure Max.	1 bar
Bath volume	5 L (max storage 5.3L)
Temperature stability DIN 12876	±0.3 K
Temperature Display Accuracy	±0.3°C
Refrigerant	R290
Power supply	220 V/110 V; 50 Hz/60Hz
Wattage	Max 750W
Weight	≤35Kg
Dimension(WxDxH)	235×468×535 mm

SEPARATION

TEMPERATURE CONTROL

Benchtop Heaters & Coolers
Water Baths
Contrast Media Warmer

Benchtop Heaters & Coolers

Heat Cool Thermo Mixers

FEATURES

- Heat/Cool and Heat only Thermo Mixers
- Accurate Temperature control and excellent mixing performance
- Microprocessor control ensures superior temperature stability and uniformity
- Programmable Heating, Cooling, and Mixing Sequences
- Large LCD touchscreen for intuitive navigation and programming
- Durable, low-noise Brushless DC motor
- Interchangeable modules with automatic detection function
- Auto resumption after power failure
- Comes with a standard block module (block for 24 x 1.5mL tubes)

SPECIFICATIONS

Name	Heat Cool Thermo Mixer	Heat Only Thermo Mixer	Heat Cool Incubator
Model	TMX100C	TMX100	DBI100C
Type	Heating/Cooling/Mixing	Heating/Mixing	Heating/Cooling
Speed Range	250 to 3000rpm	250 to 3000rpm	/
Mixing Orbit (Diameter)	3.0mm	3.0mm	/
Temperature Control Range	Ambient -15℃ to 100℃	Ambient +5℃ to 100℃	Ambient -15℃ to 100℃
Recommended Ambient Temperature	10℃ to 30℃		
Temperature Setting Range	0℃ to 100℃		
Display	7-inch Color Touchscreen		
Sample Capacity	0.1ml to 50ml		
Standard Module	1.5ml x 24-Well Plate		
Temperature Accuracy	±0.2℃ at 20–40 °C ±0.5℃ at < 20℃ or > 40℃		
Temperature Uniformity	±0.5℃		
Temperature Stability	±0.5℃		
Temperature Resolution	0.1℃		
Heating Rate (4 options)	Full Power, 5℃/min., 2℃/min., 1℃/min.		
Cooling Rate (4 options)	Full Power, 2℃/min., 1℃/min., 0.5℃/min.	/	Full Power, 2℃/min., 1℃/ min., 0.5℃/min.
Programs	Programmable up to 5 Steps		
Cycle Times	Up to 999 times		
Calibration	4 Calibration Points		
Timer	0-99h 59min 59s		
Additional Features	Pre-Heating, Power Failure Recovery		
Output	200W (max.)		
Power Supply	100~240V, 50Hz/60Hz		
Weight (including standard module)	< 10kg	< 10kg	< 8kg
Dimension (L x W x H)	332 x 227 x 185mm (including standard module, without lid)		

Dry Bath Incubators
Mini Dry Bath Incubator / with Heating Lid

FEATURES

- Temperature is up to 100°C
- LED display for easy reading
- Various applications with different blocks
- High temperature precision is up to ± 0.5°C
- Programmable operation can store up to 5 programs
- 3D digital wheel adjustment of time and temperature
- Simultaneous display of set /actual time and temperature
- Low operation voltage (12v) - can work with a car charger

SPECIFICATIONS

Model	TC0401005	TC0401006
Temperature control range [°C]	RT + 5°C~100°C	RT + 5°C~100°C
Timing range	0~99h59min	0~99h59min
Temp. control accuracy [°C]	±0.5	±0.5
Display accuracy [°C]	±0.1	±0.1
Heating time (40°C to100°C temp.)	≤15min	≤15min
Heating lid	/	√
Dimension (mm)	164 x 116 x 98	164 x 116 x 98
Net weight	0.9kg	0.9kg

ACCESSORIES

TC0401005-30
24 x 0.5ml block

TC0401005-31
40 x 0.2ml block

TC0401005-32
15 x 1.5ml block

TC0401005-33
15 x 2.0ml block

TC0401005-45
8-12.5x12.5x32mm
(For Cuvettes)

TC0401005-46
4 x 15ml block

TC0401005-100
2 x 50ml block

Dry Bath Incubators
Dry Bath Incubator (Single Block / Two Blocks / Four Blocks)
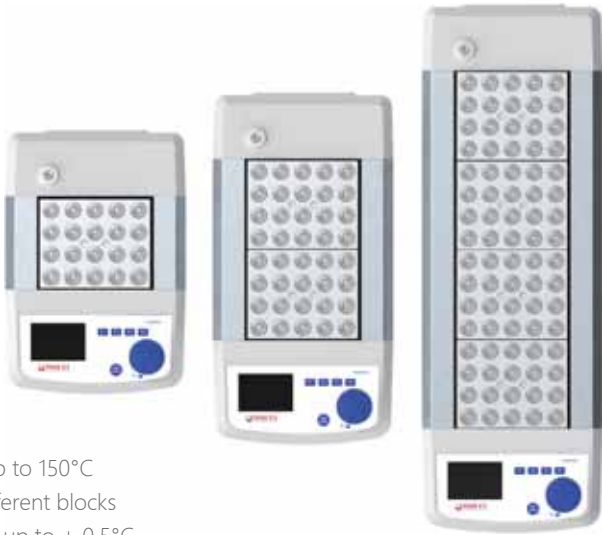
FEATURES

- Error code display
- Fixed safety circuit
- LED display for easy reading
- Adjustable temperature is up to 150°C
- Various applications with different blocks
- High temperature stability is up to ± 0.5°C
- Adjustable timing range of 1min to 99h59min
- 3D digital wheel adjustment of time and temperature
- Automatic calibration with external PT1000 temperature sensor
- Machined aluminum heating unit allows for highly precise control of temperature
- Included PT1000 temperature sensor allows temperature control directly in the sample vessel

TEMPERATURE CONTROL

SPECIFICATIONS

Model	TC0401001	TC0401002	TC0401003
Number of blocks	1	2	4
Heat output [W]	165	250	430
Heating temperature range [°C]	RT+5°C to 150°C	RT+5°C to 150°C	RT+5°C to 150°C
Temperature display	LED	LED	LED
Adjustment and display resolution [K]	0.1	0.1	0.1
Temperature stability within the blocks at 37°C	±0.5°C	±0.5°C	±0.5°C
Temperature stability within the blocks at 60°C	±0.5°C	±0.5°C	±0.5°C
Temperature uniformity at 37°C	±0.5°C	±0.5°C	±0.5°C
Set-up plate material	Aluminium alloy	Aluminium alloy	Aluminium alloy
Set-up plate dimensions [mm]	96x76	96x152	96x304
Fixed safety circuit [°C]	180	180	180
Timer	√	√	√
Time setting range	1min - 99h59min	1min - 99h59min	1min - 99h59min
Dimensions (W x H x D)	152 x 86 x 190mm	152 x 86 x 300	152 x 86 x 465
Weight [kg]	1.5	2.5	7.5
Permissible ambient temperature	5 - 40 °C	5 - 40	5 - 40
Permissible relative humidity	80%	80%	80%
Protection class according to DIN EN 60529	IP 21	IP 21	IP 21
Voltage	200-240/115	200-240/115	200-240/115
Frequency	50/60 Hz	50/60	50/60
Power input	165 W	250	412

ACCESSORIES

Part No.	Description
TC0401001-35	single block, Eppendorf tubes, 20 x 1.5mL, Φ11.5mm x 36.9mm
TC0401001-54	single block, Conical tubes, 12 x 15ml, Φ17.1mm x 44.5mm
TC0401001-55	single block, vials, 6 x 50ml Φ29.0 x 47.6mm
TC0401001-60	single block, PCR tube, 30 x 0.5mL, Φ7.9mm x 27.6mm
TC0401001-61	single block, microtube combination, 6/10/5 x 0.5/1.5/2ml
TC0401001-62	single block, Microtubes, 20 x 1.5mL, Φ11.1mm x 39.1mm
TC0401001-63	single block, Conical tubes, 20 x 2.0ml, Φ11.5mm x 38.1mm
TC0401001-64	single block, Corning tubes, 20 x 2.0ml, Φ10.9mm x 38.1mm
TC0401001-66	single block, centifuge tube combinat ion, 4/3/2 x 1.5/15/50ml
TC0401001-67	single block, Round tubes, 30 x 6mm, Φ8.3mm x 48.4mm
TC0401001-68	single block, Round tubes, 24 x 10mm, Φ10.7mm x 48.4mm
TC0401001-69	single block, Round tubes, 16 x 12/13mm, Φ13.9mm x 48.4mm
TC0401001-70	single block, Round tubes, 20 x 12/13mm, Φ13.9mm x 48.4mm
TC0401001-71	single block, Round tubes, 12 x 15/16mm, Φ17.5mm x 48.4mm
TC0401001-72	single block, Round tubes, 8 x 20mm, Φ21mm x 48.4mm
TC0401001-73	single block, Round tubes, 6 x 25mm, Φ26.2mm x 48.4mm
TC0401001-74	single block, Round tubes, 4 x 35mm, Φ35mm x 47.6mm
TC0401001-75	single block, Round tubes, 12 x 17/18mm, Φ19.1mm x 48.4mm
TC0401001-76	single block, vials, 20 x 12mm, Φ12.7mm x 30mm
TC0401001-77	single block, vials, 20 x 15mm, Φ15.8mm x 35mm
TC0401001-78	single block, vials, 12 x 17mm, Φ17.8mm x 45mm
TC0401001-79	single block, vials, 12 x 19mm, Φ19.7mm x 45mm
TC0401001-80	single block, vials, 9 x 21mm, Φ21.7mm x 45mm
TC0401001-81	single block, vials, 8 x 23mm, Φ23.8mm x 45mm
TC0401001-82	single block, vials, 8 x 25mm, Φ25.8mm x 45mm
TC0401001-83	single block, vials, 6 x 28mm, Φ28.8mm x 45mm
TC0401001-84	single block, vials, 15 x 16mm, Φ16.4mm x 45mm
TC0401001-85	single block, 10x8 PCR tube st rips, 0.2ml tubes
TC0401001-86	single block, 64 PCR t ube strips, 0.2ml tubes
TC0401001-88	single block, 2x6 cuvettes, 12.5mm
TC0401001-89	Single block, 0.2mL x 96-well centrifuge tubes
TC0401001-91	single block, Round tubes, 20x2.0mL, Φ11.5mm x 38.1mm
TC0401001-99	Thermal Transfer Basket for use with Thermal Beads (DBIB00121)
DBIB00120	Aluminum Thermal Beads (Dia 2mm, length 2~3.5mm)

WATER BATHS —— 24L / 13L / 5L / 2L

These precision heating devices are microprocessor controlled with a sleek glass touch panel interface, and a bright modern digital display. The basin manufactured from a single piece of durable stainless-steel that is resistant to corrosion and easily cleanable. Available in many sizes with 3 programmable setpoints and timing capabilities. Water baths have multiple built in safety features for years of seamless operation.

FEATURES
- Easy to read LED display
- Adjustable temperature range
- Precise temperature control
- User-friendly glass panel touch interface
- Dry-start protection feature for improved safety
- Over-temperature cut-off & alarm to protect samples from over heating
- Programmable modes can store up to 3 programs
- Durable stainless-steel chamber
- Timed operation capable
- Easy to switch temperature unit between fahrenheit (°F) and celcius (°C)
- The 2L Stainless Steel Bath (WBT200102) comes with a Bead Bath Mode (Dry Mode)

WATER BATHS —— 24L / 13L / 5L / 2L

SPECIFICATIONS

Model	WB401	WB301
Reservoir Capacity	24 L	13 L
Heating temperature range	RT+5℃ to 99.9℃	RT+5℃ to 99.9°C
Over temperature cut-off	Yes	Yes
Dry-start protection	Yes	Yes
Temperature stability	±0.3 °C	±0.3 °C
Temperature display accuracy	0.1 °C	0.1 °C
Temperature uniformity	±0.3 °C	±0.5°C
Display	LED	LED
Time setting range	0~99H59min	0~99H59min
Chamber dimensions (L x W x D)	500x300x200mm	300x240x200 mm
Dimensions (L x W x H) (incl. cover)	560x414x426mm	348x349x427mm
Weight	14.5kg	7.3 kg
Power Supply	200-240VAC, 50/60HZ / 100-120VAC, 50/60HZ	
Power	1200W	1000W

Stainless Steel Body Variant

Model	WBT200224	WBT200213
Power Supply	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz
Additional Features	/	/

WATER BATHS —— 24L / 13L / 5L / 2L

SPECIFICATIONS

Model	WB201	WB101
Reservoir Capacity	5L	2L
Heating temperature range	RT+5°C to 99°C	RT+5°C to 99°C
Over temperature cut-off	Yes	Yes
Dry-start protection	Yes	Yes
Temperature stability	±0.5°C	±0.5°C
Temperature display accuracy	0.1°C	0.1°C
Temperature uniformity	±0.5°C	±0.5°C
Display	LED	LED
Time setting range	1-999min	1-999min
Chamber dimensions (L x W x D)	300x150x150mm	150x138x150mm
Dimensions (L x W x H) (incl. cover)	394x188x285mm	252x188x285mm
Weight	4.5 kg	3 kg
Power Supply	200-240VAC, 50/60HZ / 100-120VAC, 50/60HZ	
Power	450W	200W

Stainless Steel Body Variant

Model	WBT200205	WBT200102
Power Supply	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz
Additional Features	/	Bead Bath Mode

TEMPERATURE CONTROL

CONTRAST MEDIA WARMER

Locking Incubator

FEATURES

- The casing of the instrument is made of high quality cold-rolled steel plates, with the steel surface sprayed with anti-corrosion coating.
- The interior is also made of high quality cold-rolled steel plates, sprayed with anti-corrosion coating.
- An insulated, double-pane window is located at the center of the door, which allows for convenient viewing into the interior.
- The door has a magnetic rubber seal to ensure a tight seal.
- The instrument has an intelligent temperature control that includes a PID control program, digital display, push buttons, and timer functions.
- The instrument uses an electronic lock with touch switch keys for locking and unlocking the door handle.
- There is an airflow vent located on the top side of the instrument.

SPECIFICATIONS

Model	CMW100101	CMW100102	CMW100103
Temperature range	RT +5℃ - 65℃	RT +5℃ - 80℃	RT +5℃ - 80℃
Temperature Control Method	PID Digital Controller		
Volume	18L	30L	65L
Temperature Fluctuation	±0.5℃	±0.2℃	±0.2℃
Temperature Resolution	0.1℃		
Temperature Uniformity	±2.0℃		
Heating Element	Nickel Alloy heating coil	Tubular Heating Element	
Rated Power	180W	150W	500kW
Door lock	Digital Keypad Lock		
Timer	0~9999 minutes		
Sensor	PT100		
Inner Chamber Size (W*D*H mm)	260x260x260	310×310×310	400×360×450
External Size (W*D*H mm)	410x410x620	460×510×695	550×550×840
Shelf Load	15kg	39kg	46kg
Shelf Layers	6 positions. 2 shelves included		
Exterior Materials of Construction	Cold-Rolled Epoxy Painted Steel		
Interior Materials of Construction	Stainless Steel Walls and Shelving		
Voltage	AC120V/60Hz		
Additional Features	Deviation Alarm. Power Failure Safety. Overheat Prevention		

HISTOLOGY

Tissue Flotation Bath
Slide Dryer
UV Microscope Slide Printer
UV Tissue Cassette Laser Printer
Paraffin Wax Dispenser
Paraffin Wax Trimmer
Slide Storage Cabinets
Tissue Cassette Storage Cabinets

HISTOLOGY —— Tissue Flotation Bath

FEATURES

- Deep Dish Model: the extra depth helps lift the sections out of the bath easily.
- High-definition touch screen and user-friendly interface for intuitive operation.
- Microprocessor controlled device with precise temperature performance that can keep the temperature accuracy within 1°C.
- Advanced safety over-temperature protection that shuts off the devices when the temperature is over 70°C.
- A nonvolatile memory retains the last temperature set point after powering off.
- Timer and alarm reminder.
- Auto turn-on/ turn-off function eliminates wait time.
- High temperature resistant large capacity glass basin with low-voltage LED lighting at the bottom.

SPECIFICATIONS

Model	TFB200101
Temperature setting range	0°C~99°C (1°C increment)
Voltage	AC120V±10%, 60Hz±1Hz
Power	200VA
Dimensions(L*W*H)	327mm*340mm*166mm 210mm*168mm*55mm (glass basin)
Relative humidity	≤80%
Suitable ambient temperature	5°C~30°C
Temperature accuracy	±1°C
Heating time	20 minutes to heat up to 54°C
Exterior Material	Heat-resistant glass
Drying and orienting blocks	Accommodate 8 slides
Drying Block material	Steel with PTFE coating

HISTOLOGY ——— Slide Dryer

FEATURES
- 56 slide capacity (conventional slides): 7 blocks and 8 slides on each block.
- High-definition touch screen and user-friendly interface for intuitive operation.
- Microprocessor controlled device with precise temperature performance that can keep the temperature accuracy within 1℃.
- Advanced safety over-temperature protection that shuts off the devices when the temperature is over 70℃.
- A nonvolatile memory retains the last temperature set point even after powering off.
- Timer and alarm reminder.
- Auto turn-on/ turn-off function eliminates wait time.
- Angled slide placement area for ease of use.

SPECIFICATIONS

Model	SDR100101
Temperature setting range	0°C~99°C (1°C increment)
Voltage	AC120V±10%, 60Hz±1Hz
Power	200VA
Dimensions(L*W*H)	327mm*340mm*166mm
Maximum Slide capacity	56
Temperature range	Ambient -99°C
Temperature Accuracy	±1°C
Over-temperature Alarm	YES
Surface size	34*22cm
Display	LED Display
Weight	8.5kg

HISTOLOGY —— UV Microscope Slide Printer

The **UVP201001, Ultraviolet Laser Microscope Slide Printer**, represents the next generation of slide printers. This advanced and easy to use printer can print directly on slides without using ink or consumables. The ultra-fast laser can print text, symbols, and barcodes on slides in under three seconds. The large 10-inch color touch screen allows for configuration of the print template and easy data entry. The printer is LIMS and HIMS compatible for easy integration.

FEATURES
● Next generation Ultraviolet Laser Print Technology for quick and consumable-free printing
● Large 10-inch color touchscreen for data entry and print configuration
● Quick and quiet print capabilities with slides and cassettes being printed in under 3 seconds
● Removable feed and dispensing trays for optimizing lab workflows
● Built-in scanner for quick reading of barcodes and data entry
● Safety sensors to detect slide tray attachment and when the slide tray is filled
● Easily build and configure new print templates to suit your laboratory sample needs
● Connects to most LIMS and HIMS systems to print directly from the network
● Includes software for bulk importing of slide or cassette information for printing
● Designed to operate independently or in conjunction with Tissue Cassette Printer or Information Management System
● UV printing is not susceptible to smudging from solvents, the print is physically etched into the slide

SPECIFICATIONS

Model	UVP201001
Input Voltage, Frequency	AC100V-240V, 50/60Hz
Laser Type	Long Life UltraViolet Printer
Slide Capacity	100 Slides
Interchangeable Slide Tray	Yes
Printing Capabilities	Text, Symbols, Barcodes, QR Code Multiple formats of Linear and 2D Barcodes
Print Speed	< 3 seconds
Display	10-inch color touch screen
Dispense Tray Safety Sensors	Yes
LIMS/HIMS Capable	Yes
Connects to Tissue Cassette Printer	Yes
Can Operate Independently	Yes
Batch Upload Software Included	Yes
Control System Type	Embedded
Built-in Scanner	Yes
Configurable Templates	Yes
Slide Dispense Trays	1 × Bulk Printing, 1 × Small Batch
Removable Slide Fill Tray	Yes
UV Printer Life	> 3 million slides
Air Purification System	Yes
Connection Types	2× Ethernet, 4 × USB, 1 × VGA, 1× COM, 1× HDMI
Permissible Ambient Temperature	5-40°C
Permissible Relative Humidity	80%
Dimension (WxDxH)	200×470×400mm (7.9× 12.6×16 in)
Weight	Main unit: 19kg / 42lbs

HISTOLOGY —— UV Tissue Cassette Laser Printer

The UVP202001, Ultraviolet Laser Tissue Cassette Printer, represents the next generation of histology printers. This advanced and easy to use printer can print directly on cassettes without using ink or consumables. The ultra-fast laser can print text, symbols, and barcodes on cassettes in under three seconds. The large 10-inch color touch screen allows for configuration of the print template and easy data entry. The printer is LIMS and HIMS compatible for easy integration.

FEATURES
- Next generation Ultraviolet Laser Print Technology for quick and consumable-free printing
- Large 10-inch color touch screen for data entry and print configuration
- 6 Cassette loading hoppers that can store up to 100 pieces each for a total of 600 cassettes
- Quick and quiet print capabilities with cassettes being printed in under 3 seconds
- Cassettes can be dispensed individually or directly into the collection hopper.
- Built-in scanner for quick reading of barcodes and data entry
- Easily build and configure new print templates to suit your laboratory sample needs
- Connects to most LIMS and HIMS systems to print directly from the network
- Includes software for bulk importing of cassette information for printing
- Designed to operate independently or in conjunction with the Slide Printer or Information Management System
- UV printing is not susceptible to smudging from solvents, the print is physically etched into the cassette

SPECIFICATIONS

Model	UVP202001
Input Voltage, Frequency	AC100V-240V, 50/60Hz
Laser Type	Long Life UltraViolet Printer
Cassette Capacity	600 Cassettes (6 × 100 Cassette Hoppers)
Selectable Cassette Hoppers	Yes
Printing Capabilities	Text, Symbols, Barcodes, QR Code Multiple formats of Linear and 2D Barcodes
Print Speed	<3 seconds
Display	10-inch color touch screen
Stand-Alone Operation Capable	Yes
LIMS/HIMS Capable	Yes
Connects to Slide Printer	Yes
Can Operate Independently	Yes
Batch Upload Software Included	Yes
Control System Type	Embedded
Built-in Scanner	Yes
Configurable Templates	Yes
Cassette Collection Available	1 × Bulk Printing, 1× Small Batch 1 × Individual
Automated Cassette Hopper Selection	Yes
UV Printer Life	> 3 Million Cassettes
Air Purification System	Yes
Connection Types	2 × Ethernet, 4 × USB,1 × VGA, 1× COM, 1 × HDMI
Permissible Ambient Temperature	5-40℃
Permissible relative Humidity	80%
Dimension (WxDxH)	490× 320× 500mm / 19.3 ×12.6× 19.7 in
Weight	Main unit: 34kg / 75lbs

Histology—— Paraffin Wax Dispenser

FEATURES

● LED Display shows timer and temperature status
● Automatic alarm activation if temperature exceeds the set value by 5 degrees
● Faucet heating intensity is adjustable by the knob located at the rear of the instrument to ensure continuous dispensing of wax without clogging
● PID temperature controller and temperature sensors provide precise temperature management
● Advanced bottom heating element for fast and uniform heating
● The memory and automatic restoration feature enable the automatic preservation of the set temperature following operation

SPECIFICATIONS

Model	WXD100101
Temperature Range	Ambient to 100℃
Precision	±1℃
Tank capacity	10L
Voltage	AC 220V±10% 50Hz; AC110V±10% 60Hz
Power	1200W
Dimensions (W×D×H)	355×410×540mm (W×D×H)
Weight	17kg

Histology—— Paraffin Wax Trimmer

Paraffin wax trimmer provides an efficient solution for removing excess paraffin from tissue embedding cassettes, for enhanced slicing precision in a microtome. The device is designed to simplify wax disposal and prevent messy paraffin shavings. The heated, grooved surfaces allow quick and easy removal of extra paraffin allowing the melted wax to drain cleanly into a removable catch basin.

FEATURES
● LED Display and Rotary Knob for easy temperature adjustment
● Continuously adjustable between room temperature and 99°C
● Reaches the set maximum temperature within 5 to 10 minutes, with a temperature accuracy of ±1°C.
● The large working surface allows multiple tissue cassettes to be trimmed at a time
● Grooved surface for proper wax drainage
● Magnetically attached drip tray with disposable tray liners for easy maintenance
● Power failure recovery mode and over-temperature protection
● Supports continuous operation for up to 8 hours

SPECIFICATIONS

Model	PWT100101
Temperature Range	30° C- 99° C
Temperature Accuracy	±1°C
Voltage	110V ± 10%: 50Hz
Power	250W
Weight	3.0 kg
Dimension (Lx Wx H)	350× 160 × 210 (mm)

Histology —— Slide Storage Cabinets

FEATURES

- Stacked 12 units high when filled with slides without any deformation and tipping
- Made of cold rolled steel with epoxy powder coating
- The interlocking system allows for safe stacking
- Hold up to 5,000 microscope slides per cabinet
- The color can be customized based on MOQ
- Plastic or brass knob can be available
- The base can be with or without legs
- 6 drawers per cabinet

SPECIFICATIONS

Description	Dimension (mm, L x W x H)
Cabinet	477 x 402 x 126
Base with legs	476 x 402 x 128.6
Base without legs	477 x 402 x 124

Colors	Slide Storage Cabinet	Base with Legs	Base without Legs
White	SSC100103	SSC200103	SSC200203
Tan	SSC100104	SSC200104	SSC200204

Histology——— Tissue Cassette Storage Cabinets

The Tissue cassette storage cabinets offer modular storage solution for paraffin embedded tissue samples in Histology Labs. Each cabinet has 6 drawers and can hold 2,100 tissue cassettes, with individual drawer capacity of 350 cassettes. These cabinets are made of ABS and has interlocking system for safe stacking. Each drawer comes with sponge block spacers for keeping cassettes upright, and identification labels.

FEATURES
● Made of ABS
● 6 drawers per cabinet
● Hold up to 2,100 tissue cassettes per cabinet
● The interlocking system allows for safe stacking
● Can be stacked without any deformation and tipping
● The color can be customized based on MOQ
● Shipped with sponge block spacers and identification
  label in each drawer

SPECIFICATIONS

Cabinet Dimension	445 x 245 x 400 mm
Capacity per drawer	350pcs of cassettes
Capacity per cabinet	2100pcs of cassettes

LIFE SCIENCE TOOLS

SAMPLE PREPARATION
Homogenizers
Extraction & Purification
NGS Library Preparation Workstation

AMPLIFICATION & QUANTIFICATION
PCR
qPCR
Integrated Gene Detection System
Mobile Lab (Lab-in-A-Box)
Micro volume Spectrophotometer (UV-Vis)
Microplate Reader

CELL BIOLOGY TOOLS
Cell Counter
CO_2 Incubator

CLINICAL DEVICES
Osmometer
Osmometer Calibration Standard

SAMPLE PREPARATION

Homogenizers

Extraction & Purification

NGS Library Preparation Workstation

Homogenizer —— Rotor-Stator Homogenizer

Handheld Rotor-Stator Homogenizer rapidly homogenizes biological samples and can handlesample volumes ranging from 0.1ml to 250ml, depending on the generator probe used.

The rotor rotates rapidly within a stationary stator. This creates a suction effect, and the sample is drawn into the space between the two components, where it is subjected to high shear forces thereby homogenizing the samples.

The device comes with 10 speed levels to meet your sample processing needs. An On/Off switch allows the homogenizer to be left on a stand at the required setting.

FEATURES
● **Lightweight**
  It can be operated with one hand
● **Powerful**
  160W motor provides rotor speeds from 8,000 to 30,000 rpm.
● **Durable**
High-quality 316L stainless steel probe is corrosion-resistant and is autoclavable
● **Convenient**
Interchangeable Probes can be easily dismantled for cleaning
● **Three generator probe options**
  5mm, 7mm, 10mm
● Ten adjustable speed levels
● Ideal for lysing cells and homogenizing soft tissue.
● Also suitable for applications involving liquids and suspensions, including mixing or emulsifying.

SAMPLE PREPARATION

Model	OH301
Power supply	110~120V/60Hz 220-240V / 50-60 Hz
Input power	160W
Output power	110W
Max. linear speed of rotor	6.3-14m/sec
Max. viscosity	5,000mPas
Max. noise	72db(A)
RPM range	8000~30000 rpm
Working Volume	0.1~250ml
Unit weight	0.5~0.7kg
Dimensions	55*57*210 mm
Permissible environment	0~40℃, 85% rel. Humidity
Probes	10mm(Standard), 7mm(Optional), 5mm(Optional)
Stand	Included
Speed adjustment	10 levels
Protection grade	IP20

Homogenizer —— Bead Mill Homogenizer

The Bead Mill Homogenizer is a high throughput tissue homogenizing device capable of operating up to 24 tubes of 2mL. It completely lyses, grinds and homogenizes a broad variety of biological samples. The device subjects the samples placed in tubes containing micro-beads to a high speed, 3D motion, and as a result of the collision between the samples and the beads the samples are homogenized. After homogenization, samples can be centrifuged, and the supernatant collected for further processing.

Cycle setting option is available where the unit can be programmed to operate in cycles with a rest period in between, especially to protect fragile, heat sensitive samples.

FEATURES
● High-Throughput: Can homogenize up to 24 tubes (2mL) simultaneously
● Rapid acceleration and deceleration for quick grinding: from rest to maximum speed in less than 4 seconds
● Ergonomic tube locking system for faster loading and removal of the tubes
● Cycle setting option to operate in cycles with a rest period in between, to protect fragile, heat sensitive samples.
● Up to 50 programs can be stored in memory for future use: speed, run time, rest time, number of cycles can be set
● The ergonomically positioned 5-inch touch screen comes with an intuitive user interface
● Brushless motor provides low-noise and maintenance free operation
● Can be used with a variety of grinding beads, such as zirconia, glass beads, ceramic beads, steel etc.

SPECIFICATIONS

Model	BMH024
Sample capacity	24 x 2.0 ml or 12*5mL
Motion Mode	3D Motion
Speed range	4 to 7 m/s (2430 to 4300 rpm), increment 0.05m/s
Power	500w
Power supply	AC100-240V, 50/60Hz
Working time	1s--90s, increment 1s
Interval time	1s--120s, increment 1s
Cycles	10
Noise	< 70 db
Grinding Beads	Zirconium, Glass, Ceramic, Steel
Interface	5-inchTouch screen
Stored programs	50
Acceleration time	<4s
Deceleration time	<4s
Dimensions	280mm*350mm*373mm
Weight	≤25KG
Standard Capacity	24 x 2.0ml (Standard Rotor)
Optional Accessories	12×5.0mL rotor
	6×5.0mL rotor

Nucleic Acid Extraction System

MultiEX series products offer automated nucleic acid extraction and purification using Magnetic Bead separation. The MultiEX 016 and MultiEX 032 system can meet your common nucleic acid extraction needs, with the capacity to process 16 and 32 samples per run, respectively. The MultiEX 096 is a High -throughput system and can process up to 96 samples per run. Using Magnetic Bead Separation technology, the MultiEX series extractors are capable of extracting and purifying nucleic acids from a variety of biological samples, such as whole blood, viruses, tissues, plants, animals, fungi, bacteria, cultured cells, swabs, feces, blood cards, etc. The system comes with a user-friendly touch screen interface allowing the user to easily set purification parameters. The automated system integrates all the purification phases including binding, mixing, washing, and elution, and delivers high-efficiency, high-quality purification. The system works with any prefilled magnetic bead-based reagent kit.

Nucleic Acid Extraction —— MultiEX 016

FEATURES

- **Compact & Lightweight**

  The small footprint fits into tight lab spaces while still delivering full nucleic acid extraction capability.

- **Versatile**

  Can be powered by a 24V external battery, enabling mobile on-site nucleic acid extraction.

- **Ease Of Use**

  7-inch capacitive touchscreen and intuitive user interface makes protocol creation simple and easy.

- **Flexible**

  As an open platform, all parameters can be adjusted to suit different extraction kits.

- **Minimal Hands-On Time**

  Fully automated system with auto-check function limits manual intervention and provides reliable and reproducible results.

- **Powerful Mixing**

  Adjustable, high-speed stirring (up to 10Hz) properly homogenizes even challenging samples for maximum nucleic acid yields

- **Contamination control**

  Integrated UV disinfection system eliminates cross-contamination between runs.

- **Advanced Temperature Control**

  Multiple heating modules with precise temperature control and a fast ramp rate (can reach 125°C in about a minute).

- **Convenient program management**

  Programs can be easily imported and exported through USB.

SPECIFICATIONS

Model	MultiEX 016
Processing volume	50-1000μL
Throughput	1-16 samples
Plate quantity	1
Plate type	96-Deep Well Plate (conical/round bottom)
Processing time	20min-40min/run (depending on reagent types and volumes)
Reagent type	Magnetic bead-based reagent kits (open system)
Program management	Create, Edit and Delete options available
Heating temperature	Room temperature~125℃
Temperature accuracy	1.5℃
Magnetic beads recovery rate	96%
Inter-well purification variance	CV<5%
Noise	<55db
Mixing intensities	Adjustable:8 Levels
Data storage capacity	>500 programs
Dimension	210mm*250mm*315mm
Display	7-inch color touchscreen
Lighting	YES
UV sterilization	YES
Power supply	200-240V, 100-120V 50/60Hz (can be powered by a 24V, 5A battery)
Weight	9KG
Extension ports	2 USB ports

Nucleic Acid Extraction —— MultiEX 032

FEATURES

- **Compact & Lightweight**
  Help save your limited laboratory bench space
- **Stable and Efficient**
  Automated processing avoids discrepancies and errors caused by manual operations and increases the efficiency
- **Ease of Use**
  A 10-inch color touch screen and user-friendly interface lets you easily set purification parameters
- **Contamination Control**
  Built-in UV disinfection lamp eliminates cross contamination
- **Advanced Stirring Technology**
  Stirring speed up to 10HZ (10 times up and down in 1 second) enables effective mixing of samples with high viscosity (blood, feces, etc.).
- **Multi Heating Modules**
  Multiple heating modules with individual heating controls ensures temperature accuracy for lysis and elution.
- **Safe and Reliable**
  The operation will automatically suspend once the safety door opens and only resumes after the safety door is shut, which provides better protection for users.
- **Self-Diagnostics**
  Auto checks before every run ensures that the sleeve, rod and well plate are positioned correctly thereby avoiding any errors due to omission or interference.
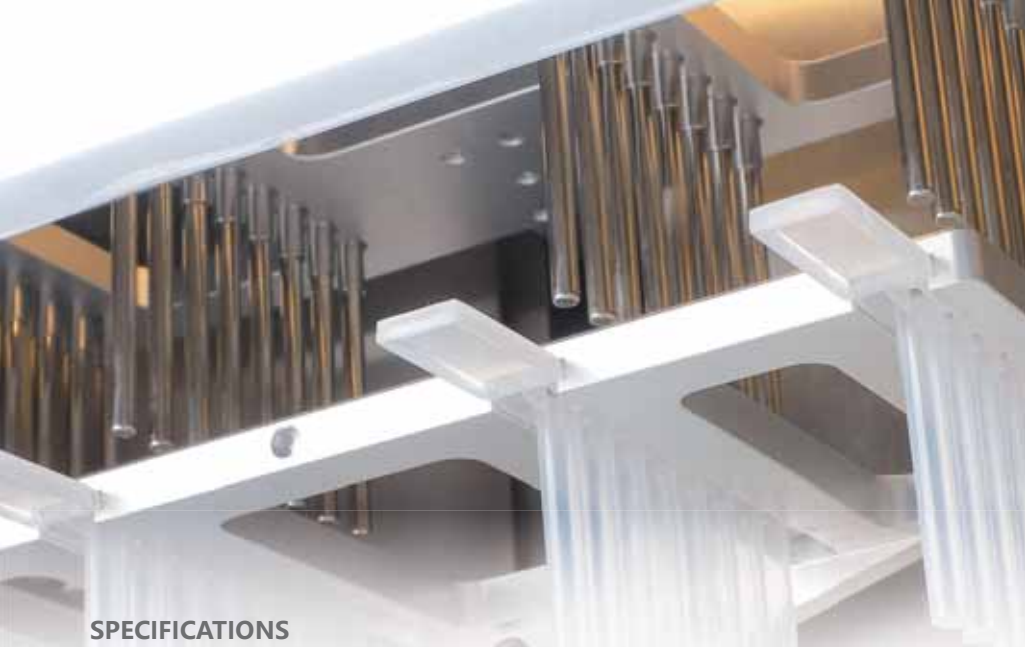
SPECIFICATIONS

Model	MultiEX 032
Processing volume	50-1000μL
Sample Quantity	1-32
Plate Quantity	2
Plate Type	96-well deep-well plate
Processing Time	20min-40min/run (depending on reagent types and volumes)
Reagent Type	Magnetic bead-based reagent kits (open system)
Program management	create, edit, and delete options available
Heating Temp.	Room Temp.~ 125℃
Mixing Intensities	Adjustable: 8 Levels
Max. Stirring Speed	10 Hz
Magnetic Bead Recovery Rate	96%
Inter-well Purification Variation	CV < 5%
Working Noise	< 55dB
Exhaust	Fan
Data Storage Capacity	> 500 programs
Dimension	349x325x390mm
Display	10-inch color touch screen
Lighting	Yes
Contamination Control	UV light
Power Supply	200-240VAC, 100-120VAC; 50/60Hz
Weight	25KG
Extension ports	2 USB port, 1 Ethernet port

Sample Loading
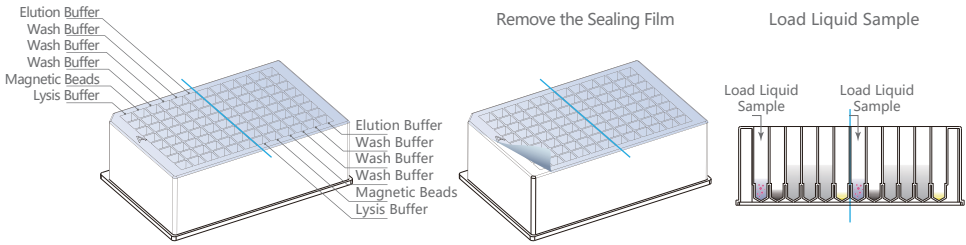
Elution Buffer
Wash Buffer
Wash Buffer
Wash Buffer
Magnetic Beads
Lysis Buffer

Elution Buffer
Wash Buffer
Wash Buffer
Wash Buffer
Magnetic Beads
Lysis Buffer

Remove the Sealing Film

Load Liquid Sample

Load Liquid Sample   Load Liquid Sample

Lysis/Nucleic Acid Binding: Lysis buffer solution promotes cell rupture and releases nucleic acids. Magnetic beads transferred from wells 2/8 to the lysis wells binds to the target nucleic acid molecules. The magnetic beads with the bound particles are then moved to the wells 3/9 for washing.

Magnetic Rods
Magnetic Rod Sleeves
Deep-well Plate
Stir up and down

Collect and transfer magnetic beads to lysis buffer column

Stir up and down

Sample lysis and binding of nucleic acids to magnetic beads

Transfer magnetic beads to wash buffer column
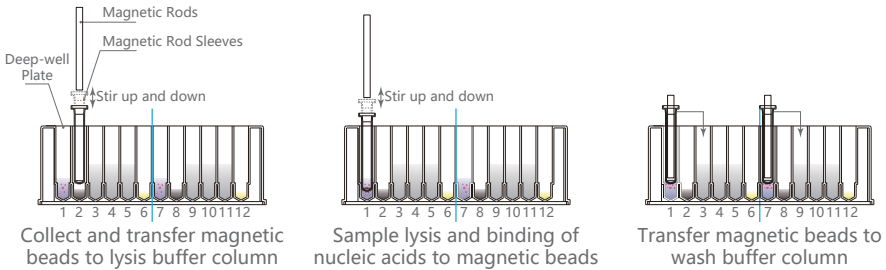
Washing: Alcoholic wash buffers in the wash wells facilitate the removal of contaminants. Since the magnetic sleeves were soaked in alcohol during the wash stage, they need to 'air dry' above the wells so that the alcohol can volatilize before starting the elution stage.

Stir up and down   Stir up and down
1st Wash

Stir up and down   Stir up and down
2nd Wash

Stir up and down   Stir up and down
3rd Wash

Dry and transfer magnetic beads to elution column

Elution: After ethanol is removed, the nucleic acid bound to the magnetic beads are mixed in elution buffer, releasing the nucleic acid.

Elution

Magnetic beads recovered

Returned to initial position

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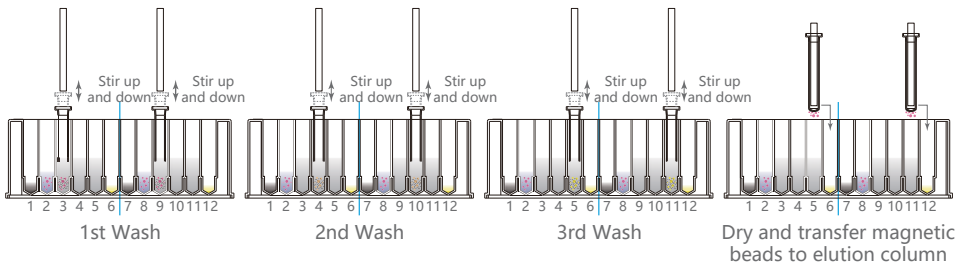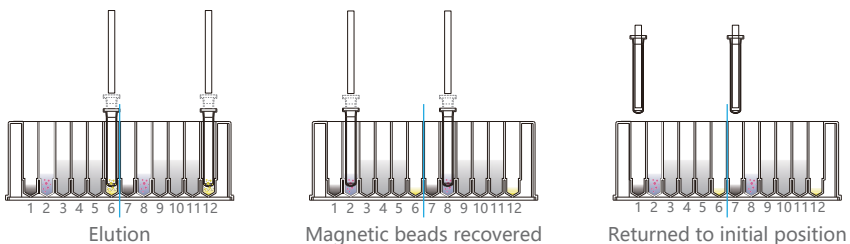
Viral DNA/RNA Extraction Kit (EK-032)

• Compatible with Four Es Scientific's MultiEX 032 Extractors
• Throughput of up to 32 samples per run
• Suitable for DNA/RNA extraction from a variety of samples including serum, plasma, sample collection buffers, cerebrospinal fluid, amniotic fluid, tissues, or other cell-free body fluids
• Extracted Viral RNA/DNA can be used in a range of molecular biology downstream applications like PCR, qPCR, NGS etc.
• Easy to Use Prefilled Magnetic Bead-based kits
• High Purity and Yield of extracted DNA/RNA, and good repeatability.
• Good Binding, and Magnetic Bead Recovery.

SPECIFICATIONS

Model	EK-032
Throughput	Up to 32 tests per kit
Starting Sample Material	Serum, Plasma, Saliva, and other body fluids
Starting Sample Amount	200 µL
Elution Volume	100 µL
Processing Mode	Automated
Plate Type	V-bottom 96-well deep-well plate
Plate Quantity	2 x 96-well deep-well plate
Magnetic Rod Sleeve Combs	4 combs (tip combs for 8-wells)
Shelf Life	2 years (0-35℃)

Box Contents:

• 2 x 96-well deep-well plate (pre-filled)
• 4 x Magnetic Rod Sleeve Combs (tip combs for 8-wells)- DNase/RNase free

Details of pre-filled 96-well deep-well plate (both well plates filled in the same way)

Well	Content	Volume
1 & 7	Lysis Buffer + Magnetic Beads	620 µL
2 & 8	empty	/
3 & 9	Wash Buffer I	600 µL
4 & 10	Wash Buffer II	600 µL
5 & 11	empty	/
6 & 12	Elution Buffer	100 µL

Nucleic Acid Extraction —— MultiEX 096

FEATURES

- **Stable and Efficient**

  Automated processing avoids discrepancies and errors caused by manual operations and increases efficiency.

- **Ease of Use**

  A 10-inch color touch screen and user-friendly interface lets you easily set purification parameters.

- **Contamination Control**

  Built-in UV disinfection lamp eliminates cross-contamination.

- **Advanced Stirring Technology**

  Stirring speed up to 10HZ (10 times up and down in 1 second), enables effective mixing of samples with high viscosity (blood, feces, etc.).

- **Multiple Heating Modules**

  Heating modules with individual heating controls ensures high temperature accuracy for lysis and elution.

- **Safe and Reliable**

  The operation will automatically suspend once the safety door opens and only resumes after the safety door is shut, which provides better protection for users.

- **Self-Diagnostics**

  Auto checks before every run ensures that the sleeve, rod and well plate are positioned correctly thereby avoiding any errors due to omission or interference.

SPECIFICATIONS

Model	MultiEX 096
Processing volume	50-1000μL
Sample Quantity	1-96
Plate Quantity	6
Plate Type	96-well deep-well plate
Processing Time	20min-40min/run (depending on reagent types and volumes)
Reagent Type	Magnetic bead-based reagent kits (open system)
Program management	create, edit, and delete options available
Heating Temp.	37℃~ 125℃
Mixing Intensities	Adjustable: 8 Levels
Max. Stirring Speed	10 Hz
Magnetic Bead Recovery Rate	96%
Inter-well Purification Variation	CV < 3%
Working Noise	< 55dB
Exhaust	Fan
Data Storage Capacity	> 500 programs
Dimension	700*490*370mm
Display	10-inch color touch screen
Lighting	Yes
Contamination Control	UV light
Power Supply	200-240V, 100-120V; 50/60 Hz
Weight	40-45KG
Extension ports	2 USB port, 1 Ethernet port

Working Principle and Steps

Sample Loading

Note: Remove the Sealing Film on the well plates
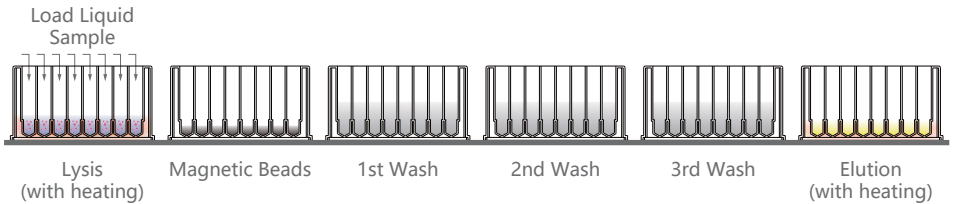
Load Liquid
Sample

| Lysis (with heating) | Magnetic Beads | 1st Wash | 2nd Wash | 3rd Wash | Elution (with heating) |

Lysis/Nucleic Acid Binding: Lysis buffer solution promotes cell rupture and releases nucleic acids. Magnetic beads transferred from well plate 2 to the lysis plate binds to the target nucleic acid molecules. The magnetic beads with the bound particles are then moved to the wash plates.

Magnetic Rods
Magnetic Rod Sleeves
Deep-well Plate

| Lysis (with heating) | Magnetic Beads | 1st Wash | 2nd Wash | 3rd Wash | Elution (with heating) |

Transfer Magnetic Beads to Lysis Plate

Stir up and down

| Lysis (with heating) | Magnetic Beads | 1st Wash | 2nd Wash | 3rd Wash | Elution (with heating) |

Heating, Samples Lysis

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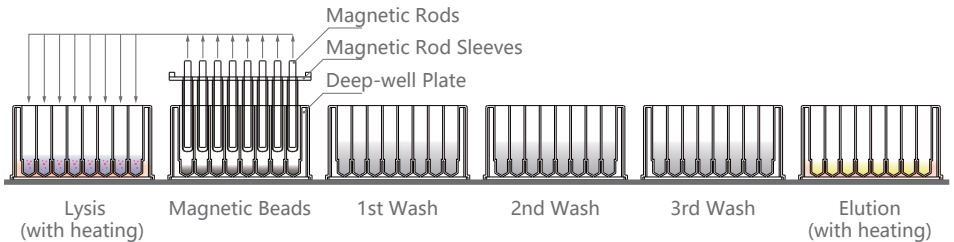
Lysis
(with heating)
Magnetic Beads
1st Wash
2nd Wash
3rd Wash
Elution
(with heating)
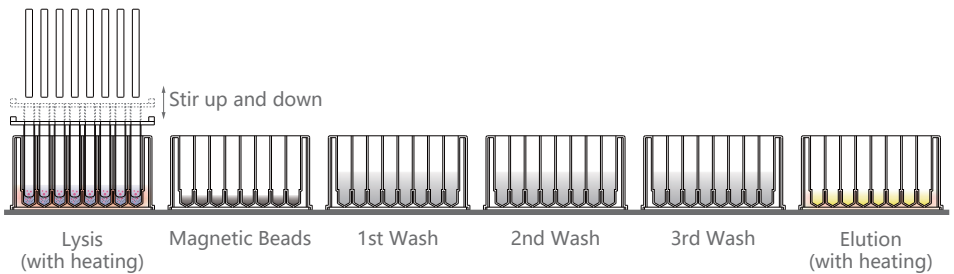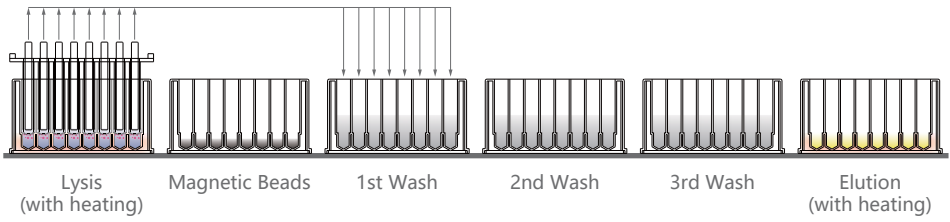
Transfer Magnetic Beads from Lysis Plate to Washing Plate

Washing: Alcoholic wash buffers in the Wash plates facilitate the removal of contaminants. Since the magnetic sleeves were soaked in alcohol during the wash stage, they need to 'air dry' above the wells so that the alcohol can volatilize before starting the elution stage.

Stir up and down

Lysis
(with heating)
1st Wash
2nd Wash
3rd Wash
Elution
(with heating)

After 3 Washings

Air dry

Lysis
(with heating)
Magnetic Beads
1st Wash
2nd Wash
3rd Wash
Elution
(with heating)
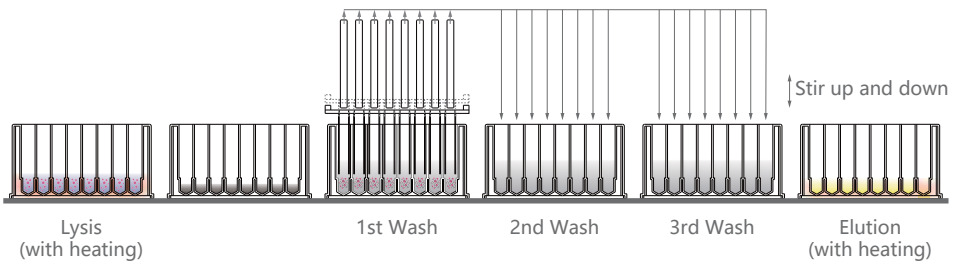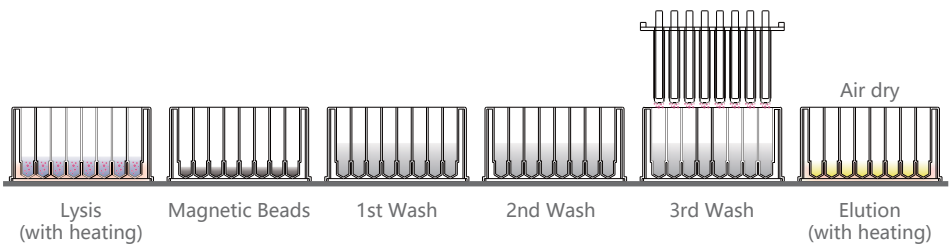
Air Dry before Elution

Elution: After ethanol is removed, the nucleic acid bound to the magnetic beads are mixed in elution buffer, releasing the nucleic acid.

Lysis
(with heating)

Magnetic Beads

1st Wash

2nd Wash

3rd Wash

Stir up and down

Elution
(with heating)
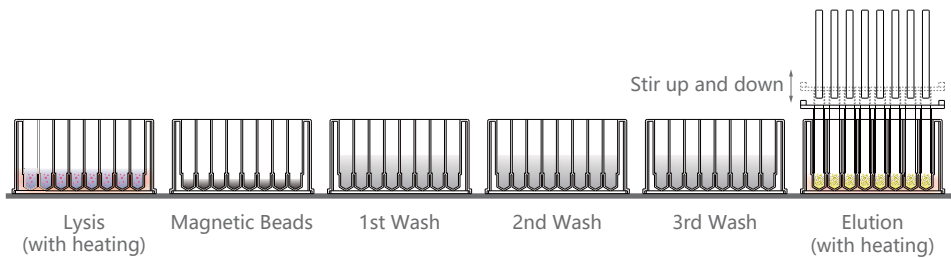
The magnetic beads are mixed with the elution buffer and heated, releasing the nucleic acids.

Lysis
(with heating)

Magnetic Beads

1st Wash

2nd Wash

3rd Wash

Elution
(with heating)
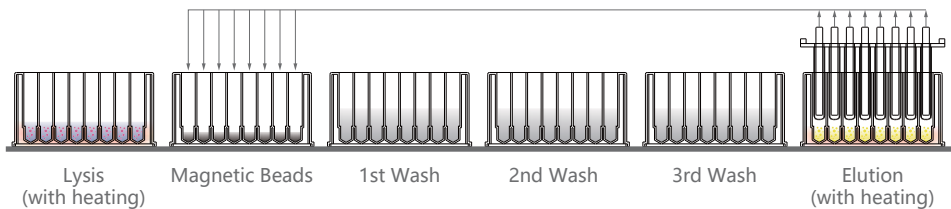
Magnetic Beads are recovered from the Elution plate and deposited back in Plate 2

Lysis
(with heating)

Magnetic Beads

1st Wash

2nd Wash

3rd Wash

Elution
(with heating)
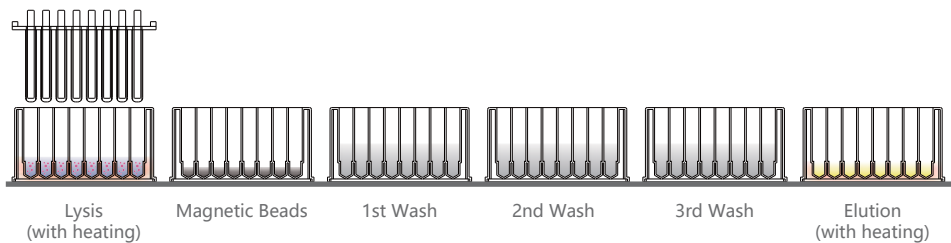
Return to initial position

Pre-filled Nucleic Acid Extraction Kits (Magnetic Bead based)

Pre-filled extraction kits for use in Automated Magnetic Bead-based Nucleic Acid Extraction Devices. Offers rapid extraction and provides high-quality nucleic acids that are free of proteins, nucleases, and other impurities.

Viral DNA/RNA Extraction Kit (EK-096)
• Compatible with Four Es Scientific's MultiEX 096 Extractors
• Throughput of up to 96 samples per run
• Suitable for DNA/RNA extraction from a variety of samples including serum, plasma, sample collection buffers, cerebrospinal fluid, amniotic fluid, tissues, or other cell-free body fluids
• Extracted Viral RNA/DNA can be used in a range of molecular biology downstream applications like PCR, qPCR, NGS etc.
• Easy to Use Prefilled Magnetic Bead-based kits
• High Purity and Yield of extracted DNA/RNA, and good repeatability.
• Good Binding, and Magnetic Bead Recovery.
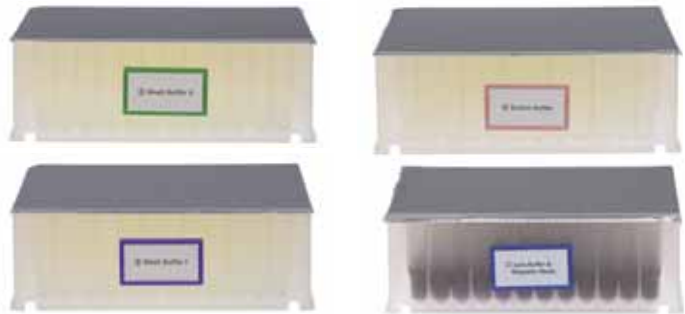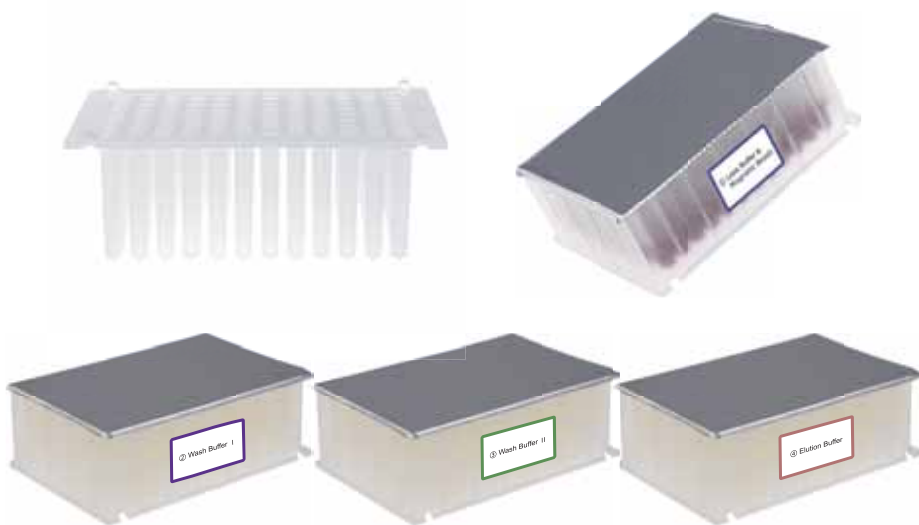
SPECIFICATIONS

Model	EK-096
Throughput	Up to 96 tests per kit
Starting Material	Serum, Plasma, Saliva, and other body fluids
Starting Amount	200 μL
Elution Volume	100 μL
Processing Mode	Automated
Plate Type	V-bottom 96-well deep-well plates
Plate Quantity	4 x 96-well deep-well plate
Magnetic Rod Sleeve Combs	1 comb (tip comb for 96 wells)
Shelf Life	2 years (0-35℃)

Box Contents:
• 4 x 96-well deep-well plate (pre-filled)
• 1 x Magnetic Rod Sleeve Comb (tip comb for 96 wells) - DNase/RNase free

Details of Pre-filled 96-well deep-well plates

Plate	Content	Volume
1	Lysis Buffer + Magnetic Beads	620 μL
2	Wash Buffer I	600 μL
3	Wash Buffer II	600 μL
4	Elution Buffer	100 μL

SAMPLE PREPARATION

Magnetic Racks

MR series magnetic rack is used for preliminary magnetic beads purification of biological samples, such as Protein, Nucleic acid or cell-lines. General Process:

• First, mix magnetic beads and sample in a tube
• The magnetic beads will bind to the target within 10 seconds
• Place the tube/s into the Magnetic Rack
• The beads along with the bound target will cling magnetically to the side of the tube wall
• The remaining supernatant can be removed to obtain the purified target.

Magnetic Racks

FEATURES

- Easy operation and provides effective separation for small-volume samples.
- Comes with adapter ring, making it suitable for holding 1.5 ml tubes from different manufacturers.
- Stable performance at a wide temperature range (-20℃~80℃).
- Fast Separation: Magnetic beads separation within 10 seconds.
- Magnets are positioned at an angle of 10° for optimal contact with the tube cone, there by providing faster separation.
- With detachable magnet holder for easy resuspension.
- Capable of simultaneous magnetic bead separation: Can handle Multiple tubes simultaneously.
- Suitable purification methodology for biological samples.
- Compact, Light-weight and made from durable materials.

APPLICATIONS
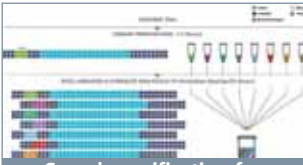
Sample purification for PCR & sequencing

Genomics DNA purification

NGS library construction

Long chain nucleic acid purification
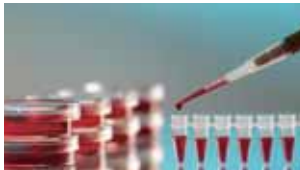
Hematology

DNA concentration

Model	MR108	MR216
Holes	8	16
Aperture	10.9mm	10.9mm
Sample Capacity	1.5mL tubes	1.5mL tubes
Working Volume	10-1000uL	10-1000uL
Magnet Pull Strength	5,000g	5,000g
Magnet Field Strength	>5,000 gauss	>5,000 gauss
Dimension	184x42x39.8mm	190x43.8x39.8mm

96-Channel
NGS Library Preparation Workstation

NGS Prep96 is a 96-channel liquid handling workstation for DNA library preparation. Composed of 96-channel precision pipetting module, magnetic separation module and temperature control module, it can be widely used in third-party testing centers, hospitals, Centers for Disease Control and Prevention, breeding centers, scientific research institutions etc.

Turntable design for improved efficiency
● Simple layout for easy operation and liquid handing
● Scanning module to avoid plate placement errors

Precise and reliable liquid handling
● Controllable aspiration & dispensing speeds to meet different applications
● According to different liquid viscosity, 'Liquid Class' value can be adjusted to achieve accurate aspiration volume control
● Liquid handling accuracy: 1μL CV ≤5%

Innovative in-place reaction to reduce the possibility of contamination
● Integrated modules in the turntable (under the plate) for different functions
● Efficient workflow with minimum steps

All functions integrated into the turntable and turntable moves back and forth during different steps.
1. This design can skip the work by manual grabbing modules
2. Can reduce the possibility of plate error during movement
3. Can reduce operating time

SPECIFICATIONS

Model	NGS Prep96
Channels	96
Volume range	5-200μL
Inaccuracy	±1.2%
Imprecision	≤0.8%
Aspirating Principle	Air-displacement piston type
Throughput	96
Decks	18
Consumables	200μL PCR plate, 200μL pipette tip
Reagent used	Open kits
Magnetic Module	3
Magnetic Strength	5000GS
Temperature Control Module	2
Temperature Range	0-80°C
Temperature Control Method	Semi-conductor refrigeration
Temperature Probe	PT1000
Number of Temperature Probe	2
Dimensions	LWH: 760mm*780mm*720mm
Display	10-inch tablet
Display Connection	tablet is connected to the main unit via Bluetooth
LED&UV	yes (12V, 5W)
Scanning Module	yes (Bar code and QR code)
Program	Programs can be added, edited and deleted
Data Storage	Can store > 500 sets of programs
Data Transfer	2 USB ports, ethernet
Power	Less than 800W
Motor	42、57 stepper motor
Numbers of motor	7
Voltage	AC 220V, 50Hz/60Hz
Cooling method	Fan
Weight	40-45KG
Noise	Less than50db

AMPLIFICATION & DETECTION

PCR ——— Gradient PCR Optima96

FEATURES

- Six Independent Temperature Blocks with imported TEC modules provide precise Temperature control for PCR optimization
- Excellent gradient temperature accuracy.
- Independent front and rear air inlet and outlet duct design, which allows instruments to be placed close to each other, saving laboratory space.
- Ultra large fin-type heat sink with intelligent fan speed control technology provides low-noise heat dissipation.
- Segmented heating lid design adapts to all types of PCR tubes, strips and well plates by automatically adjusting the lid height
- The Lid comes with Intelligent auto-heating off function to reduce non-specific amplification by turning off the heating when the temperature of sample blocks is below 30°C.
- Faster Heating and cooling Rates (Maximum heating rate >5°C/s, maximum cooling rate >4°C/s)
- Provides excellent temperature uniformity and the gradient layo ut reduces edge effect
- Comes with USB interface at the front for easy program import & export. Also, Device software can be updated through USB
- Comes with Multiple Accounts and Access rights (Administrator, User Accounts, Visitor Accounts)
- High resolution, 7-inch LCD touchscreen panel for easy operation and monitoring
- Touchdown (TD) PCR Mode and Long Range PCR Modes are available
- Compatible with universial PCR tubes,PCR 8 strips and 96-well plates.

AMPLIFICATION & DETECTION

TEMPERATURE CONTROL

Model	Optima96
Sample Capacity	96-well plates, 12x PCR 8 strips, 96x 0.2 ml well plates
PCR reaction volume	10-100 µL
Heating lid temperature	30-110°C
Max. block heating Rate	5°C/s
Max. block cooling Rate	4 °C/s
Temperature uniformity	<0.5°C (20s after reaching 95°C)
Sample temperature range	4°C~100°C
Temperature accuracy	±0.25 °C (35 °C–99.9 °C)
Technology (heating/Cooling)	Semiconductor Peltier technology, 6 independent blocks
Display resolution	0.1°C

GRADIENT

Maximum temperature difference between blocks	25°C (max. 5°C between two adjacent blocks)
Temperature difference between two adjacent blocks	0.1°C~5.0°C
Gradient temperature accuracy	±0.25 °C (35 °C–99.9 °C)
Gradient temperature uniformity	<0.5°C (20s after reaching 95°C)

PROGRAM FUNCTION

LCD display	7" LCD touch screen, real-time display of PCR process, can be used while wearing gloves
Max. number of steps	55
Time increment / decrement	1~120s, for Long Range PCR experiment
Temperature increment / decrement	0.1°C~10.0°C, for Touchdown PCR
Maximum number of cycles	999

OTHER FEATURES

Tm value calculation function	Yes
Automatic pause/power-off protection	Yes
Communication interface	USB 2.0
Storage	External USB Drive and Internal Memory
Program storage capacity	Up to 1000 programs in the instrument, Unlimited storage with USB flash drive

POWER SUPPLY

Input power	100~240V，50~60Hz
Max. power	750 V A
Max. current	10A
Noise	<55dB

OTHER FUNCTIONS

Specific amplification	The blocks do not start heating until the heating lid temperature reaches the set temperature so as to prevent sample evaporation and improve reaction specificity.
Template	Pre-stored multiple standard experiment templates, simplify the tedious programming steps
Certification	CE, RoHS
Dimensions (L×W×H)	364×243×244mm
Net weight	8.7kg

qPCR ——— Real-Time PCR S1604 (16-wells)

S1604 Real-Time PCR System is a portable fluorescence quantitative PCR instrument with four channels detection and twin 8-well block design. The two blocks can run two different programs simultaneously. The product comes with a 7-inch-high definition TFT color touch screen and built-in software which can set-up experiments and analyze experimental data. It also comes with windows PC software that allows you to run and analyze qPCR data from personal computer. The custom-made Peltier elements and highly sensitive photoelectric detectors with side scan technology ensure superior performance and accurate results. For the stand-alone operation the device can also be connected to a thermal printer (optional).

Application
Real-Time PCR System is designed to meet the needs of small and medium sized laboratories, mobile laboratories, and on-site testing.

FEATURES
• 2x8-well dual block design, and the two blocks can run different programs at the same time
• Simple and easy to use interface

SPECIFICATIONS

Model	S1604
Capacity	16 × 0.2ml(2 × 8well, dual block)
Consumable	Clear 0.2 ml PCR tube /8–tube strips
Reaction Volume	15-100μl
Temperature control technology	Customized Peltier module
Temperature Range	0-100℃(Resolution:0.1℃)
MAX. Ramp Rate	7℃/s
Temperature fluctuation	±0.1℃
Uniformity	±0,25℃
Accuracy	±0,25℃
Hot Lid Termperature	30-110℃ ((Adjustable, default 105℃))
Temperature Control	Block/Tube
Excitation wavelength	460-650nm
Emission wavelength	F1:520-540nm / F2: 540-580nm F3: 571-612nm / F4:628-692nm
Factory Calibrated Dyes	F1: FAM/SYBR Green I / F2: HEX/VIC/JOE/TET F3: ROX / F4: CY5
Excitation	Long life LED
Detection	High sensitivity photoelectric detector
Dynamic Range	$1-10^{10}$ Copies
Sensitivity	1 copy
Analysis Modules	Quantitative/qualitative analysis, Melting curve, Genotyping
Date Export Formats	excel,csv,txt
Printing	Report can be printed (optional USB thermal printer)
Control Method	7 inch color TFT touch screen, Can be connected to computer control
Communication	USB 2.0
Dimension	300×267×198 mm(L × W × H)
Net Weight	8 KG
Voltage	220 VAC、 50 Hz
Power	DC 15V 255 W

qPCR —— Real-Time PCR 48E/48R (48-wells)

48E: 4-channel qPCR
48R: 2-channel qPCR

Tailored to meet the needs of small and medium-sized laboratories and on-site testing

48E/48R Real-Time PCR System is designed to meet the needs of small and medium sized laboratories, mobile laboratories, and on-site testing. Excellent temperature control and detection ensures fast and accurate results

EXCELLENT PERFORMANCE

● **Sample throughput**

Comes with 48-well design and two models one with 4-channels (48E) and the other with 2-channel (48R).

48E can detect up to 4 target types per tube at the same time and the 48R up to 2 targets.

AMPLIFICATION & DETECTION

Maximum heating
ramp rate ≥8.0℃/s

Maximum cooling
ramp rate ≥6.2℃/s

● Efficient temperature control

The maximum heating ramp rate is ≥8.0℃/s, and the maximum cooling ramp rate is ≥6.2℃/s. It only takes 40 minutes to complete a standard PCR amplification program for your rapid detection needs. Temperature accuracy is controlled within 0.1℃, ensuring excellent repeatability and accuracy.

● Fast fluorescence scanning

Only 2 seconds, all 48-hole 4(48E)-/2(48R)-color fluorescence scanning can be completed. For lab professionals who need to use the melting curve function, this can significantly reduce the entire testing time and improve efficiency.

EASY TO USE

- 48E/48R is designed with a built-in 7-inch full-color touch screen, independent control system and USB port for data export with the storage of at least 1000 experiments.
- It can be connected to a PC for control and operation, or it can do stand-alone operation. For the stand-alone operation the device can also be connected to a thermal printer (optional), the sample amplification curves, and CT values can be directly printed out.
- The device interface and the PC software are easy to use
- The device comes with standard network connectivity for cloud-enabled operations, experiment monitoring and can do data exchange in the local area network after simple configuration.
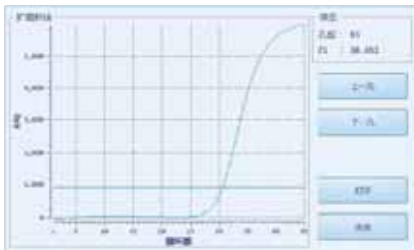
Stand-alone Analysis Report

Direct printing in stand-alone mode

POWERFUL DATA PROCESSING

● A Real All-in-One Instrument

In addition to the conventional relative quantification, absolute quantification, melting curve, genotyping, and end point fluorescence analysis functions, 48E/48R is also compatible with the fluorescence analysis functions of a variety of isothermal amplification technologies.
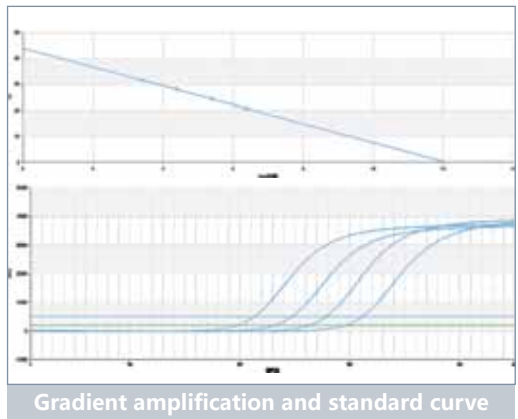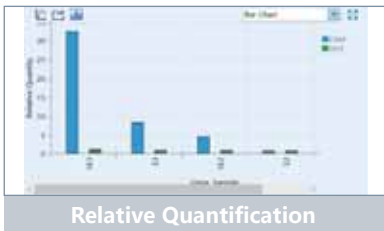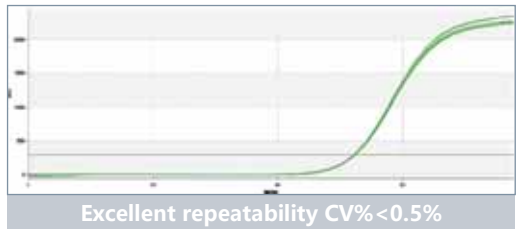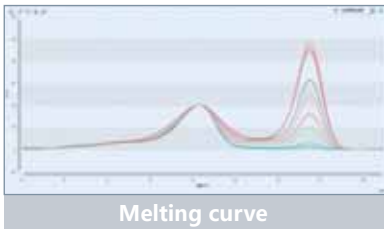
● Complex Data Analysis

Together with the instrument operating software, a set of independent data management software is also built in 48E/48R for the centralized management and analysis of your massive experimental data, to minimize the errors caused by manual analysis of original data.

● Multi-Function Reporting

The built-in multi-function reporting function can adjust and customize the format of the experimental report according to the various needs of your lab and establish your own experimental report style.

EXPERIMENTAL DATA DISPLAY

Melting curve

Excellent repeatability CV%<0.5%

Relative Quantification

Gradient amplification and standard curve

SPECIFICATIONS

Model	48E	48R
Throughput	48	48
Fluorescence Channels	4	2
Compatible Fluorophores	Channel 1: FAM, SYBR Green I, etc. Channel 2: VIC, HEX, TET, JOE, etc. Channel 3: ROX, Texas Red, etc. Channel 4: Cy5, etc.	Channel 1: FAM, SYBR Green I, etc. Channel 2: VIC, HEX, TET, JOE, etc.
Light Source	High-brightness, long-life and maintenance-free LED light source	
Detector	Photodiodes (PDs)	
Fluorescence Scanning Time	48-well 4-channel detection completed within 2s	48-well 2-channel detection completed within 2s
Heating Rate	Maximum heating ramp rate ≥8.0℃/s; Average heating ramp rate ≥6.2℃/s	
Cooling Rate	Maximum cooling ramp rate ≥6.2℃/s; Average heating ramp rate ≥4.5℃/s	
Temperature Accuracy	≤ 0.1℃	
Special Temperature Setting Function	Support thermal gradients PCR, Long PCR, Touch Down PCR	
Suitable Consumables	0.2mL clear non-skirt 48-well plates, 8-tube strips, single tubes, etc.	
Sample Testing Linearity and Repeatability	Linear Correlation: CV≥0.999 Repeatability: cycle threshold (Ct) value CV ≤0.5%	
Software Analysis	Qualitative analysis, absolute quantitative analysis, relative quantitative analysis, end point fluorescence analysis, melting curve analysis, and genotyping analysis, etc.	
Control Method	Stand-alone operation: 7-inch touchscreen control; Cloud-enabled: PC software control via direct connection or LAN (local area network); Up to 10 devices controlled by one PC	
Power Failure Protection	Automatic recovery of the experiment and other functions when the power is on again after cutting off, without waiting for the power-on of the computer or software control	
Data Storage and Transmission	A single machine can store more than 1,000 experimental data files, which can be imported and exported via USB disks	
Stand-Alone Analysis Results	No need for an extra computer: experimental data analysis enabled within the instrument; Direct printing function (optional) to output the sample amplification curve and CT value, simply by connecting to the compatible thermal printer	
Reporting Function	Built-in experiment report templates for a variety of industries; Fully open universal reporting of which the contents and formats can be customized	
Operating System	Windows XP Pro or higher	
Power Supply and Power Consumption	AC 100-240V, 50-60Hz; 600VA	
Weight	11Kg (net)	
Instrument Dimension	260x400x260mm	

qPCR —–— Real-Time PCR 960406 (96-wells)

960406 Real-time PCR is a 96 well quantitative fluorescence Real-time PCR System, equipped with a 10.1-inch high-definition color touch screen and built-in analysis software for intuitive operation and analysis. Combining the innovative thermal cycling system, accurate photoelectric detection system and intuitive software, the real-time PCR delivers precise and reproducible experimental results. The device also has two temperature control modes settings which enables you to control either block or tube temperatures.

96-well high-throughput

Up to 6 channels

Highly sensitive PMT detection

Maximum 40°C gradient temperature

Touchscreen

Sample tray control: automatically opens/closes

AMPLIFICATION & DETECTION
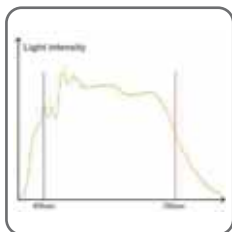
High-sensitivity

The full-spectrum high-power LED with high sensitive Hamamatsu photomultiplier tube top scanning, achieves higher sensitivity.

High-precision

High-precision temperature control guarantees the block temperature resolution at 0.1 °C and temperature uniformity of 0.1°C. Gradient temperature control range is 30-100°C and the maximum temperature difference is 40°C.

Automation

Sample tray automatically moves in/out, enabling integration with automated workstations/plate handlers.

Ergonomic design

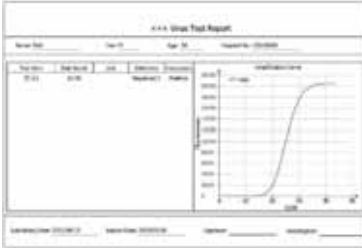The device is ergonomically designed, and the intuitive user interface delivers superior customer experience.

SOFTWARE DISPLAY

Built-in software

AMPLIFICATION & DETECTION

133

PC software
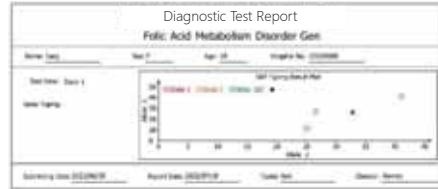
Reports

 10.1-inch large touch screen, precise response, convenient operation.

 6 fluorescence channels to meet a variety of experimental schemes.

 Preset templates + "Quick Run", starts experiment immediately.

 Can be integrated with Automated workstation/plate handlers for unmanned operations

 Flexible program settings to meet the individual needs of users.

 Built-in software and PC software for improved user's experience.

AMPLIFICATION & DETECTION

SPECIFICATIONS

Model	960406
Throughput	96 well (12 × 8)
Applicable consumables	PCR single tube or strip, 96well*0.2ml half skirted/ no skirted plate
Dynamic range	1-10^{10} copies
Detection location	Top detection
Excitation light wavelength	400-800nm
Detection wavelength	500-800nm
Fluorescence channels	6 channels
Fluorochrome/dye	Channel 1: FAM/SYBR Green I Channel 2: JOE/HEX/TET/VIC Channel 3: NED/TAMRA/Cy3 Channel 4: ROX/Texas Red Channel 5: Cy5 Channel 6: Cy5.5
Excitation light source	full-spectrum LED
Detector	PMT
Block temp. range	4~105℃
Block temp. accuracy	≤±0.1℃
Block temp. precision	≤±0.1℃
Block temp. uniformity	≤±0.1℃
Max heating & cooling rate of block	≥6℃/s
Gradient temp. difference	1-40℃
Block temp. control mode	Block mode, Tube mode
Sample volume range	5-100μL
Heated lid temp. range	30℃-110℃ (default 105℃)
Fluorescence intensity	CV≤3%
Touch screen	Yes, 10.1-inch touch screen
Scan mode	Full plate scan or specified line scan
Software functions	Absolute quantification, Relative quantification, Melting curve, SNP genotyping, HRM, Quick run, etc.
Operating system	PC software (Windows 8 or higher), Built-in software
Ports	USB Type-A port × 2, USB Type-B port, RJ45 port
Power-off protection function	YES, data can be restored after power-on
Sample tray control mode	Sample tray automatically moves in/out, enabling integration with automated workstations/plate handlers.
Dimension	320(W)mm×525(L)mm×420(H)mm
Net weight	27 Kg

Integrated Gene Detection System

Automatic Integrated Gene detection System (AIGS)

AIGS is a fully integrated system for fast molecular diagnostics, which combines nucleic acids extraction with real-time PCR amplification using the microfluidic cartridge prefilled kit. It can be widely used for gene detection in clinical diagnostics, food safety, agriculture, army and public security etc.

FEATURES

A fully integrated gene extraction and detection system
- Samples in, reports out after 1 hour.
- No need for nucleic acid extraction
- No need for PCR lab or Professionally trained MDx technicians to do the test.
- The ready-to-use prefilled microfluidic cartridge saves you the time and hassle in reagent preparation.

Multiplex detection without crosstalk
- Each detection chamber operates independently. Start test in each chamber any time and no need to wait until all samples are ready.
- 5-channel fluorescent selection enables multiple gene detection.
- AIGS-4 can test 4 samples while AIGS-16 can test up to 16 samples

Simple and intuitive software for easy operation
- It's easy to operate with the intuitive software interface and customizable program protocol.
- Test results can be traced and reports can be printed.

APPLICATION

Female health, Respiratory diseases, Digestive diseases, Veterinary diseases, Genetic diseases, Food safety

WORKFLOW

AIGS-4

AIGS-16

1st step
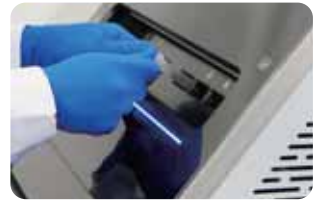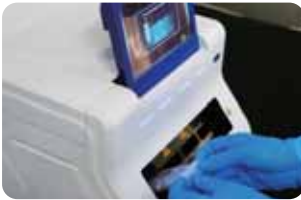Add homogenized sample, such as whole blood, sputum, puncture fluid and then add magnetic beads from the kit.

2nd step
Scan the cartridge to load the preset protocol for sample. Insert the cartridge and run.
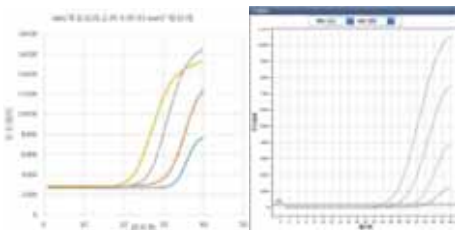
3rd step
Report generated automatically

AIGS KITS

Cartridge-based system: Microfluidic cartridges is easy to use, and the closed system prevents contamination

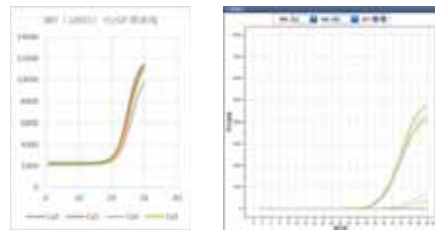**AIGS Test VS. traditional nucleic acid purification & qPCR detection.**
(HBV national standards)

Standards gradient test
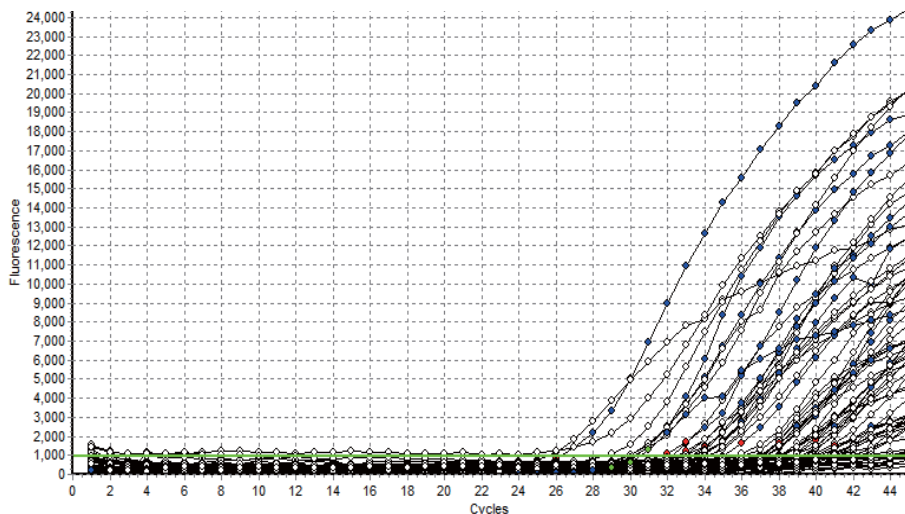
Standard 100IU sensitivity test

AIGS

Manual extraction+ qPCR detection

AIGS

Manual extraction+ qPCR detection

GBS sensitivity test, <100cfu/ml, by cultivation gold standard bacteria counts
(Clinical standard 1000cfu/ml)

SPECIFICATIONS

Name	Automatic Integrated Gene detection System (AIGS)	
Model	AIGS-4	AIGS-16
Sample capacity	4 samples	16 samples
Dynamic range	1-10^{10}copies	
Block temperature range	40℃-99℃	
Block temperature fluctuation	≤±0.5℃	
Block temperature accuracy	≤0.5℃	
Temperature display accuracy	0.1℃	
Block ramp rate	2℃/S	
Dyes	F1: FAM, SYBER Green I；F2: HEX, VIC F3: TAMRA, CY3；F4: TEX RED, ROX，F5:Cy5	
Fluorescence detection repeatability	CV ≤3%	
Fluorescence detection accuracy	CV ≤5%	
Fluorescence detection time	≤5S	
Input power	AC 100-240V, 50-60Hz, 350W	AC 100-240V, 50-60Hz, 1500W
User interface	LCD display	Touch screen
Communication	USB, Ethernet, WiFi	
Size	380 x 305 x 343mm	610 x 550 x 570mm
Weight	16kg	60kg

Kits for human diagnosis (CE IVD registered)

Name	Order No.	Package	Certification
COVID-19 nucleic acid (RNA) POCT detection kit (AIGS real-time fluorescent PCR method)	A021E/ C0011-E	24T	CEIVD
2019-nCoV/Influenza A/Influenza B Nucleic Acid (RNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	A0013-E	24T	CEIVD
COVID-19 and N501Y Mutation nucleic acid (RNA) detection kit (AIGS real-time fluorescent PCR method)	A0012-E	24T	CEIVD
COVID-19 and variant B.1.1.7 nucleic acid (RNA) detection kit (AIGS real-time fluorescent PCR method)	A0016-E	24T	CEIVD
Herpes Simplex Virus Type II Nucleic Acid (DNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	A0003-E	24T	CEIVD
Mycobacterium Tuberculosis Complex Nucleic Acid (DNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	A0008-E	24T	CEIVD
Mycobacterium Tuberculosis Complex Nucleic Acid (DNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	C0001-E	24T	CEIVD
Mycobacterium Tuberculosis/Avium/Abscessus Complex Nucleic Acid (DNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	C0008-E	24T	CEIVD
Dengue Virus, Zika Virus And Chikungunya Virus Nucleic Acid (RNA) POCT Detection Kit (AIGS realtime fluorescent PCR method)	C0013-A	24T	CEIVD
Chlamydia Trachomatis Nucleic Acid (DNA) POCT Detection Kit (AIGS real-time fluorescent PCR method)	A0004-E	24T	CEIVD
Ureaplasma nucleic acid (DNA) POCT detection kit (AIGS real-time fluorescent PCR method) user manual	A0001-E	24T	CEIVD
Neisseria Gonorrhoeae Nucleic Acid (DNA) POCT Detection Kit(AIGS real-time fluorescent PCR method)	A0002-E	24T	CEIVD
Dengue Virus Nucleic Acid (RNA) POCT Typing Kit (AIGS real-time fluorescent PCR method)	A0011-E	24T	CEIVD

Model AIGS-4S is used with the following detection kits for animal diagnosis

- The main pathogens that cause common infectious diseases in pets are viruses, bacteria, mycoplasma and chlamydia, and parasites, which seriously endanger the health of pets.
- The cartridge of the AIGS-4S detection system combines microfluidics, magnetic beads-based nucleic acid extraction, fluorescence real-time PCR to realize the fully-closed automatic output from the sample to the gene detection result.

SPECIFICATIONS

Model	AIGS-4S
Sample capacity	4 samples
Block temperature range	40℃-99℃
Block temperature fluctuation	≤±0.5℃
Block temperature accuracy	≤0.5℃
Temperature display accuracy	0.1℃
Block ramp rate	2℃/S
Dyes	F1: FAM, SYBR Green I; F2: HEX,VIC; F3: TEX RED, ROX; F4: Cy5;
Fluorescence detection repeatability	CV ≤3%
Fluorescence detection accuracy	CV ≤5%
Input power	AC 100-240V, 50-60Hz, 350W
User interface	Touch screen
Communication	USB, WiFi
Size	380 x 305 x 343mm
Weight	16kg

Live Stock Target Detection Kit

Product name	Packing	Order No.
African Swine Fever Virus (ASFV) Detection Kit	24 Tests/kit	B0007-E
Avian Influenza Virus Nucleic Acid (RNA) Detection Kit (AIGS POCT real-time RT-PCR method)	24 Tests/kit	80049-E
Foot-and-Mouth Disease Virus Nucleic Acid Detection Kit (POCT Fluorescent PCR method)	24 Tests/kit	B0040-E

Pet's Single Target Detection Kit

Product name	Description	Order No.
Feline Parvovirus (FPV) Detection Kit	DNA	B000SE
Feline Coronavirus (FCoV) Detection Kit	RNA	B0008E
Feline Herpes Virus (FHV) Detection Kit	DNA	B0009E
Feline Calicivirus (FCV) Detection Kit	RNA	B0010E
Mycoplasma Feline (MF) Detection Kit	DNA	B0011E

Product name	Description	Order No.
Chlamydia Feline (CF) Detection Kit	DNA	B0012E
Feline Leukemia Virus (FeLV) Detection Kit	RNA	B0013E
Tex Gondii (Tex) Detection Kit	DNA	B0015E
Leptospira (Lept) Detection Kit	DNA	B0016E
Barton's Disease (Bar) Detection Kit	DNA	B0017E
Mycoplasma Haemophilus (Mha) Detection Kit	DNA	B0018E
Bordetella (BB) Detection Kit	DNA	BO019E
Babesia virus Detection Kit	DNA	B0030E
Canine Distemper Virus (CDV) Detection Kit	RNA	B0002E
Canine Parvovirus (CPV) Detection Kit	DNA	B0003E
Canine Coronavirus (CCoV) Detection Kit	RNA	B0004E
Canine Herpes Virus (CHV) Detection Kit	DNA	B0006E
Rabies Virus (RV) detection Kit	DNA	B0022E
Canine Adenovirus (CAV-1, hepatitis) Detection Kit	DNA	B0023E
Canine Adenovirus (CAV-2, respiratory tract) Detection Kit	DNA	B0024E
Canine Heartworm (Di) Detection Kit	DNA	B0026E

Pet's Multiplex Kits

Product name	Order No.	Notes
Feline Respiratory Duplex Test Kit (FCV+FHV)	B0031E	2 multiplex kits
Feline Respiratory Duplex Test Kit 2(MF+CF)	B0032E	2 multiplex kits
Feline Diarrhea Duplex Test Kit (FCoV+FPV)	B0033E	2 multiplex kits
Canine Diarrhea Duplex Test Kit (CCoV+CPV)	B0036E	2 multiplex kits
Feline Anemia Duplex Test Kit 2 (FIV+FelV)	NevvoolTTngSCXIll	2 multiplex kits
Canine Respiratory Duplex Test Kit 2 (CAV2+Bb)	B0039E	2 multiplex kits
Feline Anemia Duplex Test Kit (FelV+ ToxG)	B0041E	2 multiplex kits
Common Duplex Test Kit (ToxG+Lept)e	B0042E	2 multiplex kits
Canine Respiratory Duplex Test Kit (CDV+CHV)	B0045E	2 multiplex kits
Feline Respiratory Triplex Test Kit (FCV+FHV+MF)	B0034E	3 multiplex kits
Feline Respiratory Triplex Test Kit 2 (FHV+MF+CF)	B0035E	3 multiplex kits
Feline Stomatitis Triplex Test Kit (FHV+FCV+FeLV)	B0037E	3 multiplex kits
Canine Respiratory Triplex Test Kit (CDV+CAV2+Bb)	B0043E	3 multiplex kits
Feline Respiratory Multiplex Test Kit (FCV+FHV+MF+CF) B0038E	B0038E	4 multiplex kits
Canine Respiratory Multiplex Test Kit (CHV+CDV+Cav-1+Bb)	B0044E	4 multiplex kits

Notes

Packing specification: 8 Tests/Kit, 24 Tests/Kit

Mobile Lab — Nucleic Acid Amplification Test (NAAT) Kit

The Mobile Lab solution ML201 offers complete portability, and offers rapid Nucleic Acid Amplification Testing (NAAT) without the need for a professional PCR Lab.
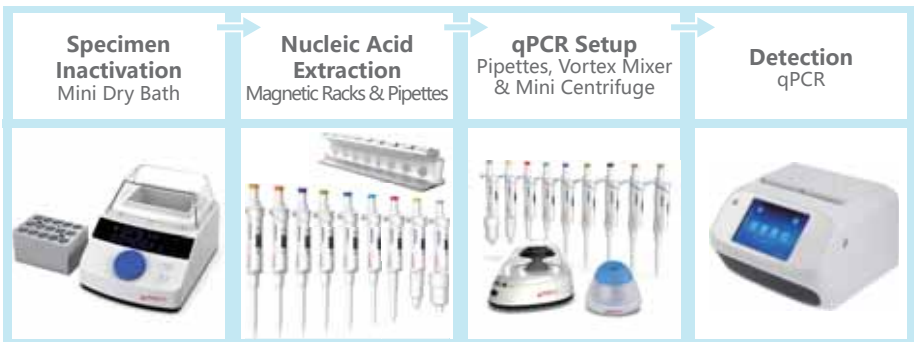
The Kit with qPCR at the core , has sample preparation instruments for Nucleic Acid Extraction and qPCR set-up.

FEATURES
- Truly Portable
- Ideal for on-site testing
- Total Solution for Nucleic Acid Amplification
- Plug n Use: No need to set up; simply connect to power source and use.

* Pictures shown are for illustration purpose only. Actual kit layout may vary.

Nucleic Acid Amplification Test

Specimen Inactivation Mini Dry Bath	Nucleic Acid Extraction Magnetic Racks & Pipettes	qPCR Setup Pipettes, Vortex Mixer & Mini Centrifuge	Detection qPCR

Lab in a Box
Plug n Use: No need to set up or move any instruments.
Simply connect to external power source to use the device

As Portable as a Travel Luggage
Comes with Trolley and Handle; Easy to carry around

Kit Contents

Description	Part #	Qty
Mini Dry bath incubator	TC0401005	1
Mini vortex mixer	MI0101001	1
Mini centrifuge	CF0201001	1
Pipette: Precipette :0.5ul-10 ul	LH0301002	1
Pipette: Precipette 10ul-100ul	LH0301005	1
Pipette: Precipette 100ul-1000ul	LH0301007	1
Magnetic Rack	MR108	1
Portable Real-Time qPCR	qPCR 244	1

Mini Dry bath incubator:TC0401005
Temp. Range:RT+5°C-100°C; Temp stability up to ±0.2°C;
Heating time (40°C to 100°C temp.): ≤15min

Mini vortex mixer: MI0101001
Fixed speed 5000rpm; Touch mode

Mini centrifuge:CF0201001
Fixed speed:5400rpm;
Rotor capacity:0.2/0.5/1.5/2.0mL x 6
or 0.2mL x 2 PCR 8 strips

Single channel adjustable volume pipette: Precipette
Volume range:0.5µl-10 µl LH0301002
Volume range:10µl-100µl LH0301005
Volume range:100µl-1000µl LH0301007

Portable Real-Time qPCR: 244
Portable Design
 24-hole, 4-channel detection
7-inch color touch screen for setting and monitoring

Magnetic Rack for Nucleic Acid Extraction: MR108
Capacity: 8 x 1.5 ml tubes
Working Volume: 10µl-1000µl

Micro volume Spectrophotometer

The Micro volume spectrophotometer (UV-Vis) with a built-in 7-inch color touch screen can perform all detection functions without connecting to a computer. The device has a full spectral range (190-800nm) for accurate quantitative analysis of DNA, RNA, proteins, etc. It comes with an intuitive user interface for easy operation.

The instrument requires only 0.5-2μl micro-volume samples for accurate and reproducible measurements and can detect high concentration samples without dilution. The Xenon flash lamp light source ensures that the device is ready for immediate use without any warm-up time and provides high stability and a long operating life.

Fluorescence detection function
The advanced model (SPT-NanoF) comes with fluorescence detection module. When used with fluorescence quantitative analysis kit it accurately quantifies the concentration of DNA, RNA and protein through the specific binding of fluorophore with target material.

FEATURES

- 7-inch LCD touchscreen with intuitive user interface accomplishes detection without the need to connect to a computer
- Only requires 0.5 - 2μl sample volume for accurate measurement.
- Full spectral range of wavelength detection from 190nm to 800nm.
- Simply power it on and start measuring, no need for lamp warm-up.
- The Xenon flash lamp has long service life up to 10 years.
- Automatic detection on lowering the pedestal arm.
- OD600 function to detect concentration of bacteria and microorganisms.
- For fluorescence detection, it can be used for accurate quantification of extremely low concentration nucleic acid with a lower limit of 0.5pg/μl(dsDNA).
- The test result can be printed by a built-in printer or exported via USB for data analysis and storage.

SPECIFICATIONS

Model	SPT-NanoF (built-in Fluorescence Detection)	SPT-Nano
Wavelength range	190-800nm	
Minimum sample size	0.5 ~ 2μL	
Path length	0.05mm (high concentration) / 0.2mm (high concentration) 1mm (normal concentration)	
Light source	Xenon flash lamp	
Detector type	2048px, CMOS	
Wavelength accuracy	1nm	
Spectral resolution	≤3nm	
Absorbance precision	0.003Abs	
Absorbance accuracy	1% (4.096A at 260nm)	
Absorbance Range	0.04 ~ 300A	
Lower Limit of Detection	2 ng/uL(dsDNA) / 0.06 mg/mL(BSA)	
Maximum Concentration	15,000 ng/uL(dsDNA) / 440 mg/mL(BSA)	
Sample pedestal material	Aluminum alloy and Quartz fiber	
Power supply	AC100V-240V, 50Hz/60Hz (power adapter)	
Operating power	48W	
Standby power	8W	
Software	Android	
Data Output	USB 2.0, built-in printer	

Model	SPT-NanoF (built-in Fluorescence Detection)	SPT-Nano

OD600nm Measurement

Sample Holder Type	Cuvette
Cuvette Dimensions	12.5x12.5x45mm; Z-Height: 8.5mm
Light source	LED
Wavelength range	600±8nm
Absorbance range	0 ~ 4A

Fluorescence detection

Sample Holder Type	0.5mL PCR Tube (with PCR Tube Holder for Cuvette Slot)	-
Excitation filters	wavelength 435-485nm	-
Emission filters	wavelength 530-560nm	-
Sensitivity	dsDNA:0.5pg/µL	-
Linear dynamic range	$R^2 \geq 0.995$	-
Repeatability	≤1.5%	-

Dimensions and Weight

Dimension (W x D x H)	318x220x205mm
Weight	4.1kg

Applications

Used in the detection of micro-volume quantities of nucleic acids, proteins, chemical substances and liquids in laboratory, food industries, chemistry, microbiology, medicine research and development.

Micro volume Spectrophotometer (UV-Vis)

The Micro volume spectrophotometer (UV-Vis) with built-in 7-inch color touch screen, can accomplish all detection functions without connecting to a computer. The device comes with an intuitive user interface, and the compact design saves valuable laboratory space. The device has wide application in molecular biological experiments, such as DNA, RNA, protein detection.

Micro volume samples low to 0.5μL

Fastest detection time: 5 seconds

Wider detection concentration range 0.2-27500ng/μL

FEATURES

Wide detection range
With a 0.03 mm minimum detection path length, the maximum detection concentration of the device is as high as 27,500 ng/μL, and the minimum detection concentration as low as 0.2 ng/μL dsDNA.

Stable and reliable detection value
Stable and Accurate detection for both low and ultra-high concentrations.

Four models to choose from
You can choose either full wavelength or the fixed wavelength models with micro volume measurement and two other models with an additional cuvette module. The cuvette module has a heated stirring function.
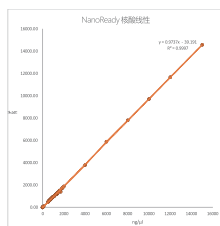
Large size color touch screen
A large 7-inch high-resolution color touch screen with intuitive UI enables to easily perform detection and analyze results.

Indication Lights
A lighting strip around the test area flashes to indicate different test stages.

NanoReady 核酸线性
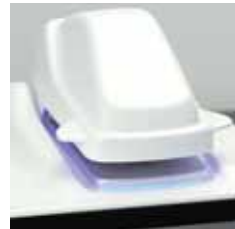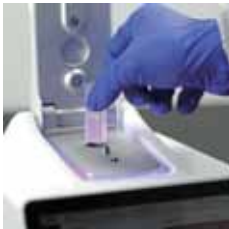
SPECIFICATIONS

Model	Nanoc-3100	Nano-3100	Nanoc-2100	Nano-2100
Detector	2048-element CCD linear image sensor			
Light Source	Xenon flash lamp			
Minimum Sample Volume(uL)	0.5			
Pathlength(mm)	0.03, 0.05, 0.1, 0.2, 1.0 auto-ranging			
Wavelength Upgrade	NA		Available	
Wavelength Range(nm)	185-910		Default 230,260,280,350,600, optional 185-910 for customized	
Wavelength Accuracy(nm)	±1			
Spectral Bandwidth	≤1.8(FWHM at Hg 253.7nm)			
Photometric(Abs)	0-550 (10mm equivalent)			
Measurement Repeatablity	0.002(1mm path), or 1% CV, whichever is greater			
Photometric Accuracy	±2%(at 0.86A at 257nm)		3%(at 0.64A at 350nm)	
Limit of Detection	Pedestal: 2ng/uL dsDNA, 0.06mg/mL BSA, 0.03mg/mL IgG			
Maximun Concentration	Pedestal: 27,500ng/uL dsDNA, 820mg/mL BSA, 400mg/mL IgG			
Measurement Time(S)	≤5			
Cuvette Temperature(°C)	37±0.5	NA	37±0.5	NA
Cuvette Stirring Speed	10-900RPM 10 levels, adjustable	NA	10-900RPM 10 levels, adjustable	NA
Cuvette Photometric range	0-1.5A (10mm)	NA	0-1.5A (10mm)	NA
Cuvette Limit of Detection	0.2ng/μL dsDNA 0.006mg/mL BSA 0.003mg/mL IgG	NA	0.2ng/μL dsDNA 0.006mg/mL BSA 0.003mg/mL IgG	NA
Display	7 inch,1280x800high-definition LCD, Multipoint capacitive touch,Gesture recognition			
Operating System	Android			
Internal Storage	32GB flash memory			
PC system Requirements	Windows 7:32/64 bit,Windows8/10:64 bit			
Data communications	USB,Wifi			
Power Supply	AC110V-220V, 50Hz/60Hz(power adapter)			
Net Weight	2.3kg	2.2kg	2.3kg	2.2kg

Microplate Reader

The Microplate Reader comes with high-quality photometer and combined with a powerful built-in software provides accurate and reliable results. A big 7-inch color touch screen with intuitive user interface enables easy settings and analysis. The Microplate reader is ideal for qualitative and quantitative ELISA applications.

FEATURES

- Wide wavelength ranging from 340nm to 850nm
- Accurate: ±1% (0-3 Abs) or ± 0.003 Abs (whichever is greater at 405nm)
- 8 filters wheel with three preset filters
- Fast reading of both 96 well and 384 well microplates
- Shaking function and incubation (RT+4°C to 50°C) for temperature critical assays
- 7" colorful touch screen with intuitive user interface
- High quality photodetector from Hamamastu
- USB port for easy data transfer

Accuracy: high-end optical system to ensure accuracy
The device offers a wide detection range from 340-850 mm wavelength. The detection results of each band are accurate and stable and can be used in a variety of applications.

Self-diagnostics:
The device runs diagnostics on start-up, and the built-in self-diagnostic program detects the position of the microplate, and the stability of optical components.

Large colorful LCD touch screen for ease of use
7-inch colorful capacitive touch screen enables easy settings and analysis. The User Interface is designed to be intuitive and user friendly and features large Icons. Up to three shortcuts can be setup for customized protocols, enabling quick launch of the protocols

Functions include:
● Main Menu: Protocol, Plate Format, Measurement, Shaking, Incubation
● Results: Raw data, Calculated Results, Calibration Data, Quality Control, Results List
● Settings: System, Filters, Printer, Startup.

Application
● Immunoassays(ELISA)
● protein assays:BCA,Lowry,Bradford
● Endotoxins
● cytotoxicity and proliferation assays
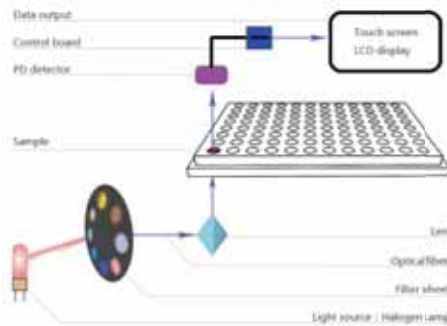● Enzyme assays
● Growth curves
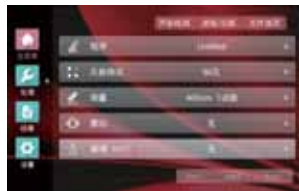
7' touch screen

8 filters wheel

Working principle(XY axis scan)

SPECIFICATIONS

Model	MMR-800
Plate Type	96-well and 384-well plates (max height:15.3mm)
Light Source	Quartz-halogen lamp
Detector Type	Photo detector
Wavelength Selection	Filters (340-850nm)
Filters wheel	8 filters wheel; Filters installed: 405nm,450nm,and 620nm.Additional filters can be ordered separately.
Optional filters	340/375/414/492/520/530/540/550 560/570/595/630/650/690/740/750/820
Half-bandwidth of filters	8±2
Linearity	0-3 Abs, ± 2% at 405nm, 96-well plate 0-2.5Abs, ±2%, at 405nm, 384-well plate
Read-out Range	0 to 6Abs
Resolution	0.001Abs
Accuracy	±1% (0-3 Abs) or ± 0.003 Abs, whichever is greater at 405nm
Precision	CV ≤ 0.2% (0.3-3 Abs) at 405nm
Shaking	Linear shaking with three modes:slow, medium,fast
Measurement Speed	7 seconds, 96-well plate,fast mode 13 seconds, 96-well plate, normal mode 13 seconds, 384-well plate, fast mode 34 seconds, 384-well plate, normal mode
Optional incubator	Temperature range from ambient + 4°C up to 50°C
Display	7' colorful touch screen
Interface	USB port for data transfer, USB port for printer
Power supply	100-240V (50/60HZ) with the adapter
External printer type	HP PCL5, PCL5c, PCL5e
Size (LXWXH)	400×290×220mm

CELL BIOLOGY TOOLS

Cell Counter

CO_2 Incubator

Portable Cell counter——CytoCube

CELL BIOLOGY TOOLS ——— Portable Cell Counter

- One Step Counting
- Fast, Small and Compact
- Highly Accurate Cell Counts
- LED lights for Slot indication
- Compatible with multiple cell morphologies
- Cell count and viability measurements with Trypan blue stain
- Advanced algorithm automatically filters cell debris and background noise

SPECIFICATIONS

Cell concentration	$1\times10^{4}-3\times10^{7}$/ml	Measuring time for a single sample	2s
Cell diameter range	8-200 μm		
Cell viability detection range	0-100%	Samples slots in one slide	6
Sample volume	25 μl	Weight	1.8kg
CV value	≤5%	Data output	USB
Consumables	6-slot counting slide	Dimension	255 x 164 x 97mm

Ease of use / One-step Operation

• It takes only 2s to measure a sample.
• A slide can hold 6 samples.

Add sample   Insert the slide   One-click Analysis

Reliability   Designed for accurate and reliable cell counting

• 5-megapixel color CMOS for image capture
• Corresponding indicator turns on after sample introduction and ensures properimaging field
  and data capture.
• Optimized optical path provides excellent image quality.

Theoretical Concentration
(10^5 Cells/mL)
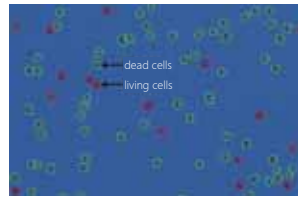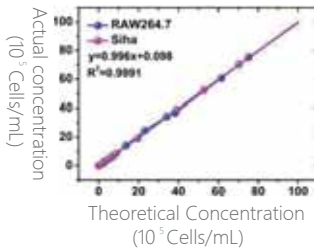
Trypan Blue method to
distinguish dead and living cells

EG7   Kyse510   Lncap   RAW   HS678bst
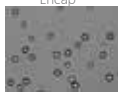
SF-9   Siha   SW480   Wi38   Hu-7

Proven Cell Line

Excellent User Experience
User-friendly software interface

• Thorough detection of concentration, viability, diameter and roundness of total cells
• User level management system:
  Different administrative level permission maintains data confidentiality.
• Multiple formats for exporting data including PDF, EXCEL and JPG to meet different
  requirements of users.

CELL BIOLOGY TOOLS

CO₂ Incubator

FEATURES

- Six-sided heating to ensure uniform temperature and faster heating
- Imported infrared CO_2 sensor is high temperature-resistant and ensures accuracy
- Heated door prevents condensation water
- 180° high temperature dry heat sterilization
- 7-inch large touchscreen, real-time display of temperature, humidity (optional), CO_2 concentration, O_2 concentration (optional), operation status bar, alarm, etc.
- Parameter can be viewed as charts
- The circulation fan accelerates the air circulation in the chamber so that the temperature and CO_2 concentration can quickly recover to the previous level after door opening
- Simple structure, compact, easy and quick disassembly and installation of components like shelves in the chamber
- Equipped with HEPA filtration, highly effective filtration of microorganisms
- Standard package is equipped with an inner door of a whole glass design and 3 shelves (Optional inner door with 3 segments and other inner door with 6 segments)

CELL BIOLOGY TOOLS

- Stainless steel mirror inner chamber with rounded angle design makes it easy to clean
- Comes with a water tray that is convenient to remove
- Multiple alarms for safe operation: CO_2 concentration alarm, high & low temperature alarm, door-open alarm, O_2 concentration alarm (optional), humidity alarm, low water level alarm (optional)
- The gas inlet outside the chamber has an easy-to-replace filter to filter the gas before entering the chamber
- The temperature is PID-controlled

SPECIFICATIONS

Model	ICO170
Heating Method	Air-jacketed
Capacity	170L
Input Voltage	110V/220V 50/60HZ
Power	<60W/H(37℃)
Power (high temperature sterilization)	<1500W/H(180℃)
Chamber Material	304 Stainless Steel; Copper (optional)
Inner door material	Tempered glass
Temperature range	Ambient+4°C~55℃ (ambient: 5℃~35℃)
Temperature controller	PID
Temperature uniformity at 37℃	Accuracy: ±0.3℃
Temperature stability	Accuracy: ±0.3℃
Temperature stability at 37℃	±0.1℃
Temperature Recovery Time (time recover to 37°C after door opening for 30 seconds)	< 5 minutes
Circulation	Fan
Disinfect	180℃ high temperature direct heat, 12-hour sterilization
Humidification	Water tray (Optional: Active humidification using external water reservoir)
Humidity	95±5% R.H.(Relative Humidity)
CO_2 sensor	Infrared
CO_2 concentration range	0.1-20%
CO_2 accuracy	±0.1 %
CO_2 concentration recovery time (time recover to 5% after door opening for 30 seconds)	< 5 minutes
HEPA filter	Filter out 99.97% of 0.22um foreign particles
CO_2 connector	8mm pipe

CO_2 pressure	0.1MPa
Tri-Gas (hypoxic culturing)	Yes (optional)
O_2 sensor	Zirconia (optional)
O_2 concentration range	1~20%
O_2 accuracy	0.1%
O_2 connector	8mm pipe
O_2 pressure	0.1MPa
Access port (for cables etc.)	Inner diameter 30mm
Display	7" LCD touchscreen
Noise	<50dB
Alarm	CO_2 concentration alarm, high & low temperature alarm, door-open alarm, O_2 concentration alarm (optional), humidity alarm, low water level alarm (optional)
Data transfer	USB, Ethernet port
Inner dimensions	557×518×597mm
Outer dimensions	718x744x956mm
Weight (accessories excluded)	≤110KG
Number of shelves	3 (standard)
Optional	
Door handle location	Left/Right
Number of inner doors	3/6
Number of shelves	6/10
Wheel type	Caster (size: 40mm)

CLINICAL DEVICES

Osmometer

Osmometer Calibration Standard

Clinical Devices — Freezing Point Osmometer

OSM100100 Osmometer measures the total osmolality of any aqueous solution, using Freezing Point Depression method.

FEATURES
- Built-in large touch screen for intuitive operation of the instrument.
- High-precision sensor guarantees accurate measurements & repeatability.
- Molar concentration, freezing point, molar concentration ratio measured.
- Multipoint calibration (2 or more points) with any standard concentration.
- Refrigerant-free cooling and therefore less maintenance requirement.
- Micro-computer controller can automatically process and store data.
- Dual refrigeration system for faster cooling and continuous testing.
- Small sample quantity requirement for testing.
- Built-in printer with multiple printing format settings.

CONSUMABLE REQUIRED
Four E's 0.5ml Sample Tube or
Axygen PCR Tube (PN: PCR-05-C)

SPECIFICATIONS

Model	OSM100100
Single or Batch	Single
Throughput	1 sample
Calibration Point	2 or more points
Sample Volume required	60µl
Range	0~3000 mOsm/kg
Accuracy	±2 mOsm/kg(≤ 400 mOsm/kg), ±1.0%(>400 mOsm/kg)
Test time	< 2min 30sec/run
Connectivity	Built-in printer, RS232
Language	English
Consumables	Four E's 0.5ml sample tube or Axygen PCR-05-C
Dimension	23cm×21cm×36 cm

Clinical Devices —
Osmometer Calibration Standards
100/290/500/900/1500/2000 mOsm/kg

Calibration standards for all types of osmometers. These high quality IVD grade osmolality reagents are packaged in sturdy cardboard boxes to protect the individual ampules. Individual calibration standards and linearity sets are available.

FEATURES
- Individual Calibration Standards and Linearity Sets Available
- Compatible with all types of Osmometers
- Certificate of Analysis & Quality Included
- For IVD and Research Use
- 10 Ampules of 1ml (ideal volume for unit calibration)
- Sturdy Packaging
- GMP Manufactured in ISO13485 Facility in Germany
- Two years shelf life

Specifications			
Model	100 mOsm/kg	290 mOsm/kg	500 mOsm/kg
Part Number	3LA0114ES	3MA0294ES	3LA0514ES
Number of Ampules	10x1 mL	10x1 mL	10x1 mL
For IVD and Research	Yes	Yes	Yes
COA and COC	Yes	Yes	Yes
Dimensions (W x H x D)	17 x 65 x 140mm	17 x 65 x 140mm	17 x 65 x 140mm
Weight	0.045kg	0.045kg	0.045kg

Specifications			
Model	900 mOsm/kg	1500 mOsm/kg	2000 mOsm/kg
Part Number	3LA0914ES	3LA1514ES	3MA2004ES
Number of Ampules	10x1 mL	10x1 mL	10x1 mL
For IVD and Research	Yes	Yes	Yes
COA and COC	Yes	Yes	Yes
Dimensions (W x H x D)	17 x 65 x 140mm	17 x 65 x 140mm	17 x 65 x 140mm
Weight	0.045kg	0.045kg	0.045kg

Specifications	
Model	100 - 2000 mOsm/kg Linearity Set
Part Number	3LA0284ES
Number of Ampules	10x1 mL
For IVD and Research	Yes
COA and COC	Yes
Dimensions (W x H x D)	17 x 65 x 140mm
Weight	0.045kg

Four E's Scientific (China)

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Tel   86-20-38032775   Website   www.4esci.com   E-mail：sales1@4esci.com

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Tel   84-220-3568566   E-mail   sales@4es-vn.com

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