

# 14

## LABORATORY INSTRUMENTS

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# Shaking Rotator

## >>> DSR-10 Digital Shaking Rotator

### Features:

- With multiple types of fixing clips, it can carry out the mixing and shaking for vessels of different shape and size.
- Two operation methods for choice: circling and reciprocating.
- Compact structure. With BLDCM (Brushless DC Motor), the equipment can run smoothly with little noise for long time.
- LCD with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Safe operating protection function adopted.
- Maximum load reaches 7.5KG.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.



**DSR-10**  
Flatbed platform (Type A)



**DSR-10**  
Securing bars platform (Type B)



**DSR-10**  
Four clamp platform (Type C)

### Optional components:



Flatbed platform, with silicon non-slip pad, adapted to softly mixing petri dish, culture flask, Test card, etc.



Securing bars platform, can clamp different kind of container by adjusting the position of bars.



Plain spring platform, used together with spring clamp.



Spring clamp model:  
25ml/50ml/100ml/200ml/500ml.

### Technical Data:

Operation method:	Circling and Reciprocating
Shaker diameter:	10mm
Maximum loading weight (incl. Fixing clips):	7.5kg
Equipment input power:	35W
Motor output power:	10W
Motor type:	BLDC
Speed range:	100-500rpm / 40-350rpm
Speed display:	LCD
Timer display:	LCD
Time setting range:	1-19h59min
Operation mode:	Timing/Continuous
Shaking table lock:	Yes
Dimensions (W×H×D):	420×360×100mm
Weight:	13kg
Permissible ambient temperature:	5-50°C
Permissible relative moisture:	80%
Protection class according to DIN EN 60529:	IP21
Analog output:	Yes
Voltage:	AC 100-240V
Frequency:	50/60Hz

## Shaking Rotator

### >>> DSR-22 Digital Orbital Shaker

#### Features:

- DSR-22 is the upgraded version of the traditional RPR, TRUST, VDRL screening and test orbital shaker for syphilis. It can be also widely used in mixing for various kinds of flat type labwares, such as: petri dish, culture plate, etc.
- Equipped with Brushless motor, it can run smoothly and quietly, thus guarantee a long service life.
- LCD with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Safe operation protection function adopted.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.



DSR-22 (With transparent cover)



DSR-22 (No transparent cover)

#### Technical Data:

Operation method:	Circling
Circling diameter:	22mm
Max. Loading weight:	2kg
Speed range:	40-350rpm
Timing range:	1-19h59min
Running mode:	Timing / Continuous
Input voltage(frequency):	AC100-240V (50/60Hz)
Input power:	20W
Working plate size:	Common type: 315×315mm With cover: 255×255mm
Protective class:	IP21
Permissible ambient temperature:	5-50°C
Permissible relative moisture:	80%
Dimensions:	Common type: 420×360×125mm With cover: 420×360×145mm
Net. Weight:	Common type: 7.0kg With cover: 7.8kg

### >>> KJ-201BD / KJ-201BS Orbital Shaker

#### Features:

- Designed for sieving and testing of syphilis RPR, TRUST, VDRL.
- High quality DC motor, actual life > 1000h.
- Tight and reasonable structure makes it run stably. Adapted to various environment.
- Adjustable knob design, easy to make it stepless speed adjustment and running at any time within 15min/60min.

#### Technical Data:

	KJ-201BD	KJ-201BS
Operation method:	Circling	Circling
Circling diameter:	22mm	22mm
Max. Loading weight:	1kg	1kg
Speed range:	20-210rpm	20-230rpm
Timing range:	0-15min / 0-60min	0-15min / 0-60min
Running mode:	Timing / Continuous	Timing / Continuous
Working plate size:	315×218mm	224×152mm
Input voltage(frequency):	AC 220V±10%(50/60Hz)	AC 220V±10%(50/60Hz)
Input power:	10W	10W
Protective class:	IP21	IP21
Permissible ambient temperature:	5-50 °C	5-50 °C
Permissible relative moisture:	80%	80%
Dimensions:	320×320×130mm	240×165×120mm
Net. Weight:	3.2Kg	2.5Kg



KJ-201BD



KJ-201BS

## Shaking Rotator

### >>> KJ-201BE / KJ-201BX / KJ-201BH Orbital Shaker

#### Features:

- Designed for sieving and testing of syphilis RPR, TRUST, VDRL, also can be used for mixing of various kinds of petri dish, elisa plates etc.
- High performance DC motor, Quiet, Stable and long lifetime.
- Digital time and speed set makes the control more accurate.
- Fixed transparent cover type or Non-cover type available.
- LED screen for time and speed display, easy for reading and operation.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.



KJ-201BE



KJ-201BX (With transparent cover)



KJ-201BH

#### Technical Data:

	KJ-201BE	KJ-201BX	KJ-201BH
Operation method:	Circling	Circling	Circling
Circling diameter:	22mm	22mm	22mm
Max. Loading weight:	1kg	1kg	1kg
Speed range:	20-230rpm	20-230rpm	20-210rpm
Timing range:	1-999min	1-999min	0-15min/0-60min
Running mode:	Timing/Continuous	Timing/Continuous	Timing/Continuous
Input voltage(frequency):	AC100-240V(50/60Hz)	AC100-240V(50/60Hz)	AC 220V±10% (50/60Hz)
Input power:	10W	10W	10W
Working plate size:	302×212mm	280×210 (Common type) 245×167 (With cover)	302×212mm
Protective class:	IP21	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C	5-50°C
Permissible relative moisture:	80%	80%	80%
Dimensions:	330×320×110mm	320×315×120mm	330×320×110mm
Net. Weight:	4.2Kg	4.5Kg	4.6Kg

### >>> KJ-201BY Rocking Mixer

#### Features:

- It can carry out an action of waving swing up and down of 25 degree, which can make the liquid in the container to move mild like the wave.
- Driven by High performance AC Motor, Running stable, No noise, Long lifetime.
- Tight and reasonable structure makes it running stable. adapted to various environment.
- Specified scalar pad is adapted to mixing of multiple types of test tubes, centrifuge tubes and tubular containers.



KJ-201BY

#### Technical Data:

Operation method:	Swing up and down
Angle of tilt:	25°
Max. Loading weight:	2.5kg
Motor type:	AC Motor
Speed range:	15rpm
Running mode:	Continuous
Input voltage(frequency):	AC 220V±10% (50/60Hz)
Input power:	6W
Working plate size:	252×170mm
Protective class:	IP21
Permissible ambient temperature:	5-50°C
Permissible relative moisture:	80%
Dimensions:	346×196×95mm
Net. Weight:	2.5Kg



## Shaking Rotator

### >>> KJ-201BYA / KJ-201BYA-S Digital Rocking Mixer

#### Features:

- It can carry out an action of waving swing up and down of 7 degree(Also can be customized),which can make the liquid in the container move mild like the wave.
- Specified anti-slip pad together with tightening belt is adapted to multiple culture flasks and petri dishes.
- Driven by High performance DC Motor, Running stable, No noise, Long lifetime.
- LCD with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.

#### Technical Data:

	KJ-201BYA	KJ-201BYA-S
Operation method:	Swing up and down	Swing up and down
Angle of tilt:	9°(Customized from 7°-12°)	9°(Customized from 7°-12°)
Max. Loading weight:	10kg	5kg
Motor type:	DC motor	DC motor
Speed range:	10-80rpm	10-80rpm
Timing range:	1-19h59min	1-999min
Running mode:	Timing/Continuous	Timing/Continuous
Input voltage(frequency):	AC100-240V(50/60Hz)	AC100-240V(50/60Hz)
Input power:	40W	20W
Working plate size:	280×320mm	230×318mm
Protective class:	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C
Permissible relative moisture:	80%	80%
Dimensions:	420×355×180mm	350×320×175mm
Net. Weight:	11.5Kg	5.3Kg



KJ-201BYA



KJ-201BYA-S



KJMR-VA



KJMR-VA-S

### >>> KJMR-VA / KJMR-VA-S Digital 3D Rotation Mixer

#### Features:

- It can carry out the action of 3D circling rotation with 9° tilt angle (can be customized), especially adapted to mixing of samples with low froth, And in process of DNA extracting, staining and decoloration.
- Specified anti-slip pad together with tightening belt is adapted to multiple culture flasks and petri dishes.
- Driven by High performance DC Motor, Running stable, No noise, Long lifetime.
- LCD with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.

#### Technical Data:

	KJMR-VA	KJMR-VA-S
Operation method:	3D circling rotation	3D circling rotation
Angle of tilt:	9°(Customized from 7°-12°)	9°(Customized from 1°-12°)
Max. Loading weight:	5Kg	2Kg
Motor type:	DC motor	DC motor
Speed range:	10-80rpm	10-80rpm
Timing range:	1-19h59min	1-999min
Running mode:	Timing/Continuous	Timing/Continuous
Input voltage(frequency):	AC100-240V(50/60Hz)	AC100-240V(50/60Hz)
Input power:	40W	20W
Working plate size:	280×320mm	230×318mm
Protective class:	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C
Permissible relative moisture:	80%	80%
Dimensions:	420×355×190mm	350×320×175mm
Net. Weight:	12Kg	5.3Kg

## Shaking Rotator

### >>> KJMR-V 3D Rotation Mixer



KJMR-V

#### Features:

- It can carry out the action of 3D circling rotation with 20° tilt angle (can be customized), especially adapted to mixing of samples with low froth. And in process of DNA extracting, staining and decoloration.
- Driven by High performance AC Motor, Running stable, No noise, Long lifetime.
- Tight and reasonable structure makes it running stable, adapted to various environment.
- Specified anti-slip spike-like pad is adapted to mixing of multiple types of test tubes, centrifuge tubes and tubular container.

#### Technical Data:

Operation method:	3D circling rotation	Input power:	6W
Angle of tilt:	20°	Working plate size:	240×170mm
Max. Loading weight:	1.5kg	Protective class:	IP21
Motor type:	AC motor	Permissible ambient temperature:	5-50°C
Speed range:	20rpm	Permissible relative moisture:	80%
Running mode:	Continuous	Dimensions:	200×160×160mm
Input voltage(frequency):	AC220V±10%(50/60Hz)	Net. Weight:	2.5Kg

### >>> KJ-201A / KJ-201B / KJ-201C Microplate Shaker

#### Features:

- Elastic silicon plate, easy to clean and wear-resisting. It can fit various kinds of cell culture plates.
- High performance & low noise AC motor to make rapid and thorough mixing.
- Adjustable knob design can ensure stepless speed adjustment, and constant run within 60min.

(1 plate)



KJ-201A

(4 plates)



KJ-201B

(6 plates)



KJ-201C

#### Technical Data:

	KJ-201A	KJ-201B	KJ-201C
Operation method:	Circling	Circling	Circling
Circling diameter:	8.5mm	3.2mm	9mm
Rating speed:	800-2600rpm	600-2200rpm	200-2800rpm
Max. loading:	1 pcs microplate	2/4 pcs microplate	1-6 pcs microplate
Running mode:	Timing/Continuous	Timing/Continuous	Timing/Continuous
Timing range:	0-60min	0-60min	0-15min
Permissible relative moisture:	80%	80%	80%
Input voltage(frequency):	AC 220V±10% (50/60Hz)	AC 220V±10% (50/60Hz)	AC 220V±10% (50/60Hz)
Output power:	20W	10W	10W
Protective class:	IP21	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C	5-50°C
Dimensions:	185×185×135mm	240×250×135mm	310×280×225mm
Net. Weight:	1.5Kg	3.8Kg	6.2Kg

## Shaking Rotator

### >>> KJ-201BA Digital Microplate Shaker

#### Features:

- Reasonable design, the machine will be stable, No shifting and noise while running.
- Different types of plates can carry out rapid mixing of powder drug and liquid based cells.
- High performance AC motor, with wind cooling device to ensure long-time and safe running.

#### Technical Data:

Operation method:	Circling
Circling diameter:	3mm
Rating speed:	200-1500rpm
Running mode:	Timing/Continuous
Timing range:	0-99h59min
Max. loading:	2/4 pcs microplate
Input voltage(frequency):	AC 100-240V (50/60Hz)
Permissible relative moisture:	80%
Input power:	40W
Protective class:	IP21
Permissible ambient temperature:	5-50°C
Dimensions:	330×320×110mm
Net. Weight:	6.5Kg



KJ-201BA

### >>> KJ-201ZT Multifunction Shaker

#### Features:

- Reasonable design, the machine will be stable, No shifting and noise while running.
- Adjustable knob design can ensure stepless speed adjustment.
- High performance, Low noise DC motor to ensure rapid and thorough Mixing.
- Customized plate available to meet different test requirements.



KJ-201ZT

#### Technical Data:

Operation method:	Circling
Circling diameter:	4mm
Rating speed:	200-2800rpm
Running mode:	Continuous
Max. loading:	15 pcs 50ml centrifuge tubes or 50 pcs 3-50ml tubes
Input voltage(frequency):	AC 220V±10% (50/60Hz)
Permissible relative moisture:	80%
Output power:	10W
Protective class:	IP21
Permissible ambient temperature:	5-50°C
Dimensions:	260×200×260mm
Net. Weight:	2.2Kg

## Shaking Rotator

### >>> KJ-201MT / KJ-201MTA Multifunction Shaker

#### Features:

It is suitable for mixing the whole plate of various test tube racks and centrifuge tube racks. It can mix up to 96 pieces 10-person/2-person virus sampling tubes at a time. High-performance, low-noise DC motor is used for driving, and the mixing is more complete and thorough. Reasonable design, high-quality cushioning pads is selected, the upper and lower layers are clamped and fixed, and the machine body is stable under a long time running.

#### KJ-201MT Overview and Features

- ◆ Adjustable knob design, easy to achieve timing work, stepless speed regulation.

#### KJ-201MTA Overview and Features

- ◆ Digital display speed and time, button to modify parameters, convenient operation, making the experimental results more accurate.
- ◆ Pulse shaking mode can be used to mix viscous samples.



KJ-201MT



KJ-201MTA

#### Technical Data:

	KJ-201MT	KJ-201MTA
Running mode	circle	circle
Turnover diameter	4mm	4mm
Rated speed	400—2800rpm	500-2500rpm
Running mode	continuous, timing	continuous, timing, short, pulse
Timing time setting range	0—15min	1S—99min
Pulse mode gap stop timing range	-	1S—99S
Pulse mode gap operation timing range	-	1S—20min
Maximum cycles times in pulse mode	-	99 times
Work surface size	340×220 mm	340×220 mm
Input power	100W	200W
Input voltage	AC220V±10% (50/60Hz)	AC100—240V (50/60Hz)
Allowable relative humidity	80%	80%
Shell protection grade	IP21	IP21
Allowable ambient temperature	5—50 C	5—50 C
Dimensions	440×290×480mm	440×290×480mm
Net weight	16.5Kg	17Kg



Working example 1:  
Batch mixing: 10ML virus sampling tube,  
vacuum blood collection tube, 10ML,  
15ML centrifuge tube or test tube, etc.



Working example 2:  
Batch mixing: 30ML virus sampling  
tube, 50ML centrifuge tube.



## Shaking Rotator

### >>> KJMR-III Multifunction Mixer

#### Features:

- Three mixing models, Adapted to mixing of Blood samples, Urinary samples, Injectables and plasma etc.
- High performance & low noise stepping DC motor to make rapid and thorough mixing of samples.
- Specified silicon clip ring, can fit various kinds of test tubes and centrifuge tubes.
- Tight and reasonable structure makes it running stable. Adapted to various environment.
- LCD with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Light touch panel design makes operation easy.

#### Technical Data:

Operation method:	Rotation: 360°clockwise 360°anticlockwise 360°clockwise-anticlockwise cross Shaking: Forward-backward reciprocating action with < 5°angle Vortex: Forward-backward reciprocating action with < 5°angle+360°clockwise rotation
Speed range:	5-40rpm
No.1 working plate:	1.5ml-15ml test tube or centrifuge tube 22pcs
No.2 working plate:	50ml centrifuge tube 6pcs, 1.5ml-15ml test tube or centrifuge tube 4pcs
Running mode:	Timing
Timing range:	1min-60h
Input voltage(frequency):	AC 220V±10% (50/60Hz)
Input power:	15W
Protective class:	IP31
Permissible ambient temperature:	5-50°C
Permissible relative moisture:	80%
Dimensions:	380×182×190mm
Net. Weight:	3 kg



**NO.1 working plates:**

adapted to Ø12/Ø13/Ø16 test tubes and 1.5ml-15ml centrifuge tubes.



**KJMR-III**

**NO.2 working plates:**

adapted to Ø12/Ø13/Ø16 test tubes and 1.5ml-50ml centrifuge tubes.

### >>> KJ-202 Powder Shaker

#### Features:

- Reasonable design, the machine will be stable, No shifting and noise while running.
- Different types of plates can carry out rapid mixing of powder drug and liquid based cells.
- High performance AC motor, with wind cooling device to ensure long-time and safe running.



**KJ-202**

#### Technical Data:

Operation method:	Circling
Circling diameter:	3.4mm/4mm
Rating speed:	1000rpm/1200rpm
Running mode:	Continuous
Input voltage(frequency):	AC 220V±10% (50/60Hz)
Permissible relative moisture:	80%
Output power:	12W / 24W
Protective class:	IP21
Permissible ambient temperature:	5-50°C
Dimensions:	235×160×160mm
Net. Weight:	2.3Kg

#### Various plates:

Recommended bottles: Diameter: 1-3mm less than the O-ring.  
Height: Double of the working plate.



Standard plate: Height 30mm.  
Including: Ø37 O-ring- 1 well, Ø35 O-ring-2 wells, Ø28 O-ring-8 wells, Ø25 O-ring-8 wells.



12 well plates, Height 37mm, with 12 wells of Ø33 O-ring



20 well plates, Height 30mm, with 20 wells of Ø25 O-ring



20 well plates, Height 30mm, with 20 wells of Ø28 O-ring



12 well plates, Height 45mm, with 12 wells of Ø33 O-ring



12 well plates, Height 30mm, with 6 wells of Ø33 O-ring & 6 wells of Ø37 O-ring

## Vortex Mixer

### >>> XH-B Vortex Mixer

#### Features:

- Wide application range: Can be used for mixing samples in Test tubes, Centrifuge tubes, flasks etc.
- High performance & low noise AC motor to make rapid and thorough mixing.
- Specified designed operation panel, Easy to clean and wear-resisting.
- Shaking speed can be adjusted automatically based on the pressure degree.



XH-B

### >>> XH-C Vortex Mixer

#### Features:

- Adapted to the mixing of finger tip blood sample, It can mix the sample thoroughly without damaging the blood cells, it also can fit different types of centrifuge tubes.
- High performance & low noise AC motor to make rapid and thorough mixing.
- Continuous and Inching model available, Easy to operate.
- Reasonable design, compact structure and stable performance.



XH-C

### >>> XH-D Vortex Mixer

#### Features:

- Adapted to re-suspension particles, extract drugs and vortex cell suspensions. Mixing tissue samples, And also can be used to ELISA reaction and RIA Tests.
- Multiple plates available, can be used for various kinds of test tubes and small containers.
- High performance & low noise AC motor to make rapid and thorough mixing.
- Continuous and Inching model available, Easy to operate, Knob design makes it easy carry out stepless speed regulating.
- Reasonable design, compact structure and stable performance.



XH-D

#### XH-D Available plates:



Multi-well plates, Adapted for 1.5ml and 2ml Micro centrifuge tubes.



Silicon anti-slip plate, for test tubes or containers with bottom less than 99mm diameter.



Standard Silicon plate: For test tubes or containers with bottom less than 30mm diameter.



Standard plastic rack: For 10-50ml conical end centrifuge tubes and various kinds of test tubes.

### >>> XH-E / XH-F Vortex Mixer

#### Features:

- It is suitable for the extraction of suspended particles, cell suspensions or drugs, mixing tissue samples, enzyme chain reaction and RIA detection.
- 7 kinds of adapters are available, suitable for 0.2ml-50ml various types of centrifuge tubes, test tubes, flasks and other containers.
- High-efficiency, low-noise AC motor, adjustable speed, strong and stable.
- Reasonable design, stable performance, flexible and simple operation.

#### XH-E Optional Accessories:



Rubber non-slip mat, suitable for test tubes or containers with a diameter less than 99mm



Silicone standard chuck, suitable for test tubes and small containers with a diameter less than 30mm

XH-E



XH-F



4-hole adapter, suitable for 50ml centrifuge tube



8-hole adapter, suitable for 5ml, 10ml, 15ml centrifuge tubes



24-hole adapter, suitable for 1.5ml and 2ml centrifuge tubes



37-hole adapter, suitable for 0.5ml centrifuge tube



88-hole adapter, suitable for 0.2ml centrifuge tube

## Vortex Mixer

Technical Data:	XH-B	XH-C	XH-D	XH-E	XH-F
Operation method:	Circling	Circling	Circling	Circling	Circling
Circling diameter:	3.6mm	3mm / 4mm	4.4mm	4.4mm	4mm
Rating speed:	2600rpm	2800rpm	1000-2800rpm	0-2800rpm	200-3000rpm
Running mode:	Continuous	Continuous, Short	Continuous, Short	Continuous, Short	Timing, Continuous, Short
Working plate size:	Ø100mm	Ø55mm	Ø55mm		
Input voltage (frequency):	AC 220V±10%(50/60Hz)	AC 220V±10%(50/60Hz)	AC 220V±10%(50/60Hz)	AC 220V±10%(50/60Hz)	AC 220V±10%(50/60Hz)
Permissible relative moisture:	80%	80%	80%	80%	80%
Output power:	12W	30W	30W	60W	40W
Protective class:	IP21	IP21	IP21	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C	5-50°C	5-50°C	5-50°C
Dimensions:	100×130×135mm	Ø110×150mm	180×120×180mm	130×160×155mm	130×160×155mm
Net. Weight:	2.3Kg	2.5Kg	4.5Kg	2.5Kg	2.5Kg

### >>> XH-S Vortex Mixer

#### Features:

- For small amount of sample mix;
- Touch operation;
- Fixed speed: 3000rpm;
- Small and beautiful;
- DC brushless motor, stable performance.



### >>> XH-SA Vortex Mixer

#### Features:

- For small amount of sample mix;
- Touch operation;
- Fixed speed: 3000rpm;
- Small and beautiful;
- DC brushless motor, stable performance.



Technical Data:	XH-S	XH-SA
Operation method:	Circling	Circling
Circling diameter:	4.5mm	4.5mm
Rating speed:	3000rpm	0-3000rpm
Running mode:	Touch	Continuous, Touch
Working plate size:	For small containers up to 30 mm in diameter	For small containers up to 30 mm in diameter
Input voltage(frequency):	AC100-240V (50/60Hz)	AC100-240V (50/60Hz)
Permissible relative moisture:	80%	80%
Output power:	5W	5W
Protective class:	IP43	IP43
Permissible ambient temperature:	5-50°C	5-50°C
Dimensions:	Ø100×90mm	Ø100×90mm
Net. Weight:	0.6kg	0.6kg

## Roller Mixer

### >>> KJMR-I Roller Mixer

#### Features:

- It can carry out two functions(Roll and Swing) at same time, adapted to mixing of blood samples, adhesive materials and Liquid - solid suspensions.
- Driven by High performance AC Motor, Running stable, No noise, Long lifetime.
- 5 rolls, compact structure makes it less space occupation. It can be put in cold closet or Incubators, adapted for obvious environment.
- Reasonable space between the rolls makes it fit for different size tubes.



KJMR-I

### >>> KJMR-II Roller Mixer

#### Features:

- It can carry out two functions(Roll and Swing), adapted to mixing of blood samples, adhesive materials and Liquid - solid suspensions.
- Driven by High performance DC declaration Motor, Running stable, No noise, Long lifetime.
- 7 rolls, compact structure makes it less space occupation. adapted for obvious environment.
- Reasonable space between the rolls makes it fit for different size tubes.
- According to actual requirements, we can supply corotation-reverse cross model, The roller can be lengthened within a certain range to fit for more tubes.



KJMR-II

### >>> KJMR-IIA Roller Mixer

#### Features:

- It can carry out two functions(Roll and Swing), adapted to mixing of blood samples, adhesive materials and Liquid - solid suspensions.
- Driven by High performance DC declaration Motor, Running stable, No noise, Long lifetime.
- 7 rolls, compact structure makes it less space occupation. adapted for obvious environment.
- LED with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage .
- Reasonable space between the rolls makes it fit for different size tubes.
- According to actual requirements, we can supply corotation-reverse cross model, The roller can be lengthened within a certain range to fit for more tubes.



KJMR-IIA

#### Technical Data:

	KJMR-I	KJMR-II	KJMR-IIA
Operation method:	Roll+swing	Roll+swing	Roll+swing
Swing angle:	$\pm 11^\circ$	$22\text{mm} \pm 1\text{mm}$	$22\text{mm} \pm 1\text{mm}$
Rating speed:	36rpm	20-80rpm	20-100rpm
Max. Loading weight:	0.8Kg	1.5Kg	1.5kg
Running mode:	Continous	Continous	Continuous, Timing
Timing range:	—	—	0-999min
Input voltage (frequency):	AC 220V $\pm 10\%$ (50/60Hz)	AC 220V $\pm 10\%$ (50/60Hz)	AC100-240V(50/60Hz)
Permissible relative moisture:	80%	80%	80%
Output power:	6W	10W	10W
Roll length:	230mm	236mm	236mm
Protective class:	IP21	IP21	IP21
Permissible ambient temperature:	5-50°C	5-50°C	5-50°C
Dimensions:	260 $\times$ 155 $\times$ 140mm	410 $\times$ 270 $\times$ 100mm	410 $\times$ 270 $\times$ 100mm
Net. Weight:	3Kg	4.5Kg	4.0kg



## Roller Mixer

### >>> KJMR-IV Rotator Mixer

#### Features:

- 360 degree mild rotation mixing can keeps sample in suspension. Adapted to mixing of blood, urinary samples etc.
- Driven by High performance DC declaration Motor, Running stable, No noise, Long lifetime.
- Compact and reasonable structure makes it running stable. Adapted to various environment.
- Four types elastic clip could be randomly combined for use. Adapted to 1.5ml, 15ml, 50ml centrifuge tubes and test tubes with Ø8, Ø9, Ø12, Ø13, Ø16mm diameter.



KJMR-IV

### >>> KJMR-IVA Rotator Mixer

#### Features:

- 360 degree mild rotation mixing can keeps sample in suspension. Adapted to mixing of blood, urinary samples etc.
- Driven by High performance DC declaration Motor, Running stable, No noise, Long lifetime.
- Compact and reasonable structure makes it running stable. Adapted to various environment.
- LED with backlight can display the current speed, time and operation mode, convenient for reading and setting.
- Precise digital time and speed setting can easily carry out the continuous operation mode.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.
- Four types elastic clip could be randomly combined. Adapted to 1.5ml, 15ml, 50ml centrifuge tubes and test tubes with Ø8, Ø9, Ø12, Ø13, Ø16mm diameter.



KJMR-IVA

#### Technical Data:

	KJMR-IV	KJMR-IVA
Operation method:	360°reverse rotation	360°reverse rotation
Tilt angle of the plate:	38°	38°
Speed range:	6-32rpm	5-35rpm
Timing range:	—	0-999min
Clip Qty:	Large size 12pcs Medium size 24pcs Small size 24pcs	Large size 12pcs Medium size 24pcs Small size 24pcs
Running mode:	Continuous	Timing/Continuous
Plate diameter:	Ø300mm	Ø300mm
Input voltage(frequency):	AC 100-240V(50/60Hz)	AC 100-240V(50/60Hz)
Input power:	10W	10W
Protective class:	IP31	IP31
Permissible ambient temperature:	5-50°C	5-50°C
Permissible relative moisture:	80%	80%
Dimensions:	310×300×420mm	310×300×420mm
Net. Weight:	4.3Kg	4.0Kg

#### Available plates:



Large size clip, for 50ml centrifuge tubes.



Medium size clip, for to Ø16 test tubes and 10ml, 15ml centrifuge tubes.



Small size clip: for Ø13 test tube, Ø12 test tube, 1.5ml centrifuge tube.



Extra small size clip: for Ø8-9mm test tube and 0.5ml centrifuge tube.



## Roller Mixer

### >>> KJMR-IVD Rotator Mixer

#### Features:

- Electronic adjustment of speed and time.
- LED display of speed and time.
- Speed range from 5 to 35rpm.
- Rolling action, gives gentle but effective mixing.
- Adjustable mixing angle from 0 to 90°.
- A wide variety of accessories are available.

#### Technical Data:

Operation method:	360°reverse rotation
Tilt angle of the plate:	0-90°
Speed range:	5-35rpm
Timing range:	0-999min
Clip Qty:	Large size 8 pcs Medium size 16 pcs Small size 60 pcs
Running mode:	Timing/Continuous
Plate diameter:	Ø280mm
Input voltage(frequency):	AC 100-240V(50/60Hz)
Input power:	10W
Protective class:	IP31
Permissible ambient temperature:	5-50°C
Permissible relative moisture:	80%
Dimensions:	280×210×300mm
Net, Weight:	4.0Kg



KJMR-IVD



Suitable for more tubes, such as 50ml, 15ml, 10ml centrifuge tubes, Ø16mm, Ø13mm, Ø12mm, Ø8-9mm test tubes and the others.



The mixing angle can be easily adjusted by adjusting handle.



LED with backlight can display the current speed, time and operation mode, convenient for reading and setting.



Silica gel feet, more stable fixation.

## Colonometer

### >>> J-2 & J-3 Colonometer

#### Features:

- Compact structure makes it less space occupation. Adapted for various environment.
- The LED light can be adjusted to make an ideal perspective for the operator.
- It will beeps while counting, which can avoid wrong counting.
- Unique Up-light source makes it convenient to count bacteria that is hard to observe.
- Specified designed counting pen to ensure no omit of the cells.
- Wide-range voltage design. Avoid the interference to the equipment by instable voltage.

#### Technical Data:

	J-2	J-3
Lighting:	Matrix LED(White light)	Matrix LED(White light)
Digital display:	3 digits	3 digits / 4 digits
Counting range:	0-999	0-9999
Compatible petri dish:	50-90mm	50-150mm
Input voltage(frequency):	AC 100-240V (50/60Hz)	AC 100-240V (50/60Hz)
Input power:	20W	40W
Magnification:	3-9 Times	3-9 Times
Protective class:	IP21	IP21
Permissible relative moisture:	80%	80%
Permissible ambient temperature:	5-50°C	5-50°C
Dimensions:	255×210×160mm	360×300×180mm
Net. Weight:	2.2Kg	4.0Kg



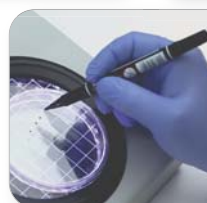
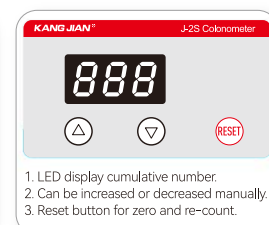
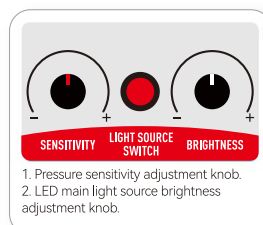
### >>> J-2S Colonometer

#### Features:

- J-2S is a high-tech colony counter, known for its user-friendly functions and excellent ergonomics. It can accurately count all the culture media (culture dishes, filters) used in microbiology.
- Place the petri dish on the pressure-sensitive glass surface, and you can use any felt-tip marker to press and count, and there will be a pleasant beep when counting, and the accumulated data will be displayed on the LED screen immediately. The touch sensitivity of the pressure sensor can be adjusted to adapt to different culture vessels and user habits. With the function of manually increasing or decreasing the counting button, the repeated counting or missing counting can be corrected during operation.
- The internal LED lighting system is glare-free and the luminosity is adjustable, which makes the colony form a sharp contrast view to adapt to the difficult-to-observe microorganisms in the culture container. The grid size is moderate, which is convenient for accurate counting by blocks.
- The large frameless magnifying glass (which can achieve magnification of 3 times or 9 times of observation and counting) and the unique upper light source compensation illumination make the microbial appear completely, and the counting operation to be much easier.



J-2S



- Intuitive counting with tactile pressure beeps.
- LED long-life lamp, low heat and no wearing parts.
- Any felt-tip marker available.



#### Technical Data:

Lighting	White LED array	Magnification	3 times / 9 times
Digital display	3-digit LED display	Protection class	IP21
Counting range	0-999	Allowable relative humidity	80%
Counting method	Pressure sensitive	Allowable ambient temperature	5-50°C
Applicable petri dish	Ø50 Ø55 Ø60 Ø70 Ø90	Dimensions	255×210×160mm
Input voltage (Frequency)	AC 100-240V (50-60Hz)	Loupe size	Ø90mm / Ø20mm
Input power	20W	Net weight	2.8Kg

# Centrifuge

## >>> KJLC-I Centrifuge

### Brief Introduction:

⊙ KJLC-I Centrifuge with brushless DC motor and microcomputer. It has LCD display, standard equipped rotor, time setting function and features like stepless speed change, etc. It's the ideal equipment applicable for clinic test, biochemistry, immunology, etc. which is mostly chosen by the institution like medical health, food, environment, scientific research, teaching and biochemical test, etc.

### Features:

#### 1. Outstanding performance:

- ⊙ CPU precise controlling, high performance brushless DC motor, maintenance free.
- ⊙ Highly accurate speed control.
- ⊙ Timing begins after speed steady to guarantee a more precise centrifuge time.
- ⊙ Two kinds of acceleration curves, three kinds of deceleration curves, free match and combinations between acceleration and deceleration, makes the specimen separation better.

#### 2. Reliable safety:

- ⊙ Full 304 stainless steel made rotor chamber guarantees much more safety for the rotor running.
- ⊙ Closed centrifuge chamber can much reduce biological contamination risk.
- ⊙ Aluminum material rotor ensures long service life.
- ⊙ Four important safety functions: Lid interlock, monitor for lid open / close condition, over-speed protection, automatic internal diagnosis, which can highly protect operation staff and the centrifuge.

#### 3. Humanized design:

- ⊙ Time and speed display simultaneously, convenient for monitoring the running condition of the centrifuge.
- ⊙ Three kinds of operating mode: 10s-99min59s timing, continuous run and short run.
- ⊙ G-force (RCF) and speed (RPM) switch displayed, convenient for reading.
- ⊙ 10 groups operating parameter memory makes the working efficiency highly improved.
- ⊙ Quiet running with noise lower than 65dB.



### Technical Data:

Rated speed:	300-4500rpm, increment: 10rpm / 100rpm (fast turning the SPEED dial)	Output power:	94W
Maximum RCF:	Rotor 1: 2558×g increment: 10×g / 100×g (fast turning the SPEED dial) Rotor 2: 2200×g increment: 10×g / 100×g (fast turning the SPEED dial)	Input power:	300W
Speed accuracy:	±20rpm	Input voltage (Frequency):	AC100-240V (50-60Hz)
Maximum capacity:	240ml	Noise level:	< 65dB
Running mode:	Timing / Continuous / Short	ACC/DEC: Acceleration:	Fast(Accelerate to Max. speed < 23S) Slow(Accelerate to Max. speed < 66S)
Timing range:	10s-99min59s increment: 1S/1min(fast turning the SPEED dial)	Deceleration:	Fast(Decelerate to stop < 23S) Slow(Decelerate to stop < 66S) Normal (according to the specimen mass)
Rotor type:	12-bore angle rotor / 24-bore angle rotor	Dimension:	450×340×230mm
Safety function:	Lid interlock, monitor for lid open / close condition, over-speed protection, automatic internal diagnosis	Net weight:	10kg
Driving motor:	Brushless DC motor		

### Rotor:



24-bore angle rotor, Ø16×85 colour adapter



12-bore angle rotor, Ø17×105 adapter



48mm Rubber cushion



23mm Rubber cushion

Rotor NO.	Rotor Description	Tube Specifications	Tube Quantity	Tube Size (diameter×length)	Max. Speed	Max. RCF	Adapter Size (diameter×length)	Accessory (Rubber Cushion)
1	24-Bore Angle Rotor	8.5-10ml (Test tube)	24	Ø15×107 mm	4500rpm	2558 × g	Ø16×85mm	—
		4-7ml (Test tube)	24	Ø13×106 mm		2558 × g		—
		1.5-5ml (Test tube)	24	Ø13×82 mm		2264 × g		23mm
		4-7ml (Test tube)		Ø15×75 mm				
2	12-Bore Angle Rotor	8.5-10ml (Test tube)	12	Ø16×107 mm	4000rpm	1968 × g	Ø17×105mm	23mm
		4-7ml (Test tube)	12	Ø13×106 mm		1968 × g		23mm
		1.5-5ml (Test tube)	12	Ø13×82 mm		1681 × g		48mm
		15ml (Culture tube)	8	Ø17×120 mm		2200 × g		—

## Centrifuge

### >>> KJLC-II Mini Centrifuge

#### Features:

- High-performance DC motor, powerful engine, quiet when running, noise< 52dB.
- Closed-loop control technology, accurate speed control.
- Wide-voltage design to prevent interference to the running accuracy by mains fluctuation.
- Clear LED display to show time and speed.
- Speed and time adjustable for various lab experiments.
- Big volume design, max. capacity up to 8×2mL micro centrifuge tube or 16×0.2mL PCR tube.
- Rapid speed up and down. Less than 10s required to reach 10000rpm, and stop within 5s from 10000rpm.
- Easy rotor switching without any tools.
- Cover opening and closing supervision system ensures safe running.
- Five colors available for the safety cover.

### >>> KJLC-II-S1 Mini Centrifuge

#### Features:

- Ideal for microfiltration and quick spin-downs.
- Easy-to-use with dual start / stop function.
- 6000rpm fixed speed.
- Compatible with 2mLx8 and PCR8x2 rotors.
- Quiet running, noise level ≤52dB.
- Rotor change without tools.
- Accelerates and brakes in seconds.



#### Technical Data:

	KJLC-II	KJLC-II-S1
Rated speed:	3000-10000rpm(1000rpm/grade)	6000rpm
Maximum RCF:	5460×g	3280×g
Adapted tube:	1) 8×0.2mL / 8×0.5mL / 8×1.5mL / 8×2mL centrifuge tube 2) 2×0.1mL PCR-8 strip tube, 2×0.2mL PCR-8 strip tube	1) 8×0.2mL / 8×0.5mL / 8×1.5mL / 8×2mL centrifuge tube 2) 2×0.1mL PCR-8 strip tube, 2×0.2mL PCR-8 strip tube
Running mode:	Timing/Continuous	Continuous
Timing range:	1s-99min	-
Safety performance:	Cover opening/closing supervision	Cover opening/closing supervision
Motor:	DC motor	DC motor
Input power:	40W	20W
Output power:	16W	5W
Power supply:	Single-phase 100-240V (50-60Hz)	Single-phase 100-240V (50-60Hz)
Noise range:	< 52 dB	< 52dB
Dimension:	195(L)×170(W)×135(H)	195(L)×170(W)×135(H)
Net weight:	0.8kg	0.6 kg

## >>> DSZ-II LCD Digital Timing Clock

- 15 groups timing at the same time, 12 pieces of melody for choice.
- Any one second could be forecasted.
- Display the date and time.
- With features of memory protection after power failure.
- High definition, high brightness VALCD display.

Working Temperature:	-5°C~+50°C
Relative Humidity:	<80%
Timing group:	15 groups
Timing range:	1s-100h
Time Accuracy:	Daily error <3s
Voltage:	AC 100-240V (50-60Hz)



④ The Instrument is microcomputer controlled hemocytometer, which could be counted, numerical statement and display. It is 10 groups of 2 digital. It could display ten groups of numbers and totals accurately, satisfy the clinic to test the blood routine detection. It is attractive appearance, rational construction, clear data, it is convenient to use, especially applicable to the middle size and smallsize hospitals.

Voltage:	AC 100-240V (50/60Hz)
Power rating:	5W
Maximum count category:	10 groups
Count capacity of every group:	0-99
External Dimension:	220×166×78 mm





## Decapper

### >>> KJMC-I Decapper for Vacuum Blood Collection Tubes

#### Features:

- It would be simpler and more convenient by using the automatic machine to reduce medical staff's labor intensity and improve the work efficiency.
- Effectively avoid being infected by skin scratch when the staff open the cap of cracked glass tube by hand.
- Due to the negative pressure inside the tube, too much force during the cap opening will cause blood spatter. The machine successfully solves the danger of cross infection and avoid the trouble of frequent hand washing.
- Radically preclude the danger of potential biological contamination caused by residual aerosol inside the tube during manual operation.
- Meanwhile, it is highly meaningful to bio-safety.

#### Technical Data:

Voltage:	AC 220V±10% (50/60Hz)
Power rating:	45W
Opening Speed:	60pcs/min
Tube rack:	24 wells/rack
Tube size:	Ø13×75mm, Ø13×100mm Ø16×100mm(Customized)
External dimension:	External dimension: 420×250×200mm



KJMC-I

#### Replaceable Tube Rack:



For Ø16×100mm vacuum tube



For Ø13×100mm vacuum tube



For Ø13×75mm vacuum tube

### >>> KJMC-II Automatic Decapper

#### Features:

- KJMC-II automatic decapper adopts a stepper servo control system, which can accurately control the rotational torque and angle. It is designed specifically for opening and closing test tube lids and is suitable for hospitals, disease control, customs, scientific research institutions, etc. It can effectively reduce the risk of cross infection among inspectors, reduce work intensity, and improve inspection efficiency.
- Efficient and fast:** Automatically detect the presence or absence of virus tubes, operate with one hand, and complete the lid opening and closing action in 3 seconds.
- Humanized design:** Free switching between automatic and manual control modes, with three working modes available, suitable for various operating habits and working situations.
- Safe and stable:** DC 24V input and advanced servo control design, eliminating leakage or innocent shutdown caused by liquid leakage.
- Quiet and portable:** exterior size 250×140×370mm, suitable for multiple types of biosafety cabinets.
- Wide application range:** Various chucks are available, compatible with 12mm-35mm spiral cover tube bodies.

#### Technical Data:

Voltage:	DC 24V
Action mode:	①Opening the lid ②Closing the lid ③Cycling between opening and closing
Operation mode:	Automatic or manual
Cover opening speed:	≤ 2 seconds/piece
Closing speed:	≤ 2 seconds/piece
Applicable pipe diameter:	Ø 12-35mm (customizable cap clamp to meet the needs of different pipe diameters)
External dimensions:	250×140×370 mm
Net weight:	6.5kg



## Decapper

### >>> KJMC-V 96-Channel Automatic Decapper

#### Features:

- Simple and easy to use, it can automatically open and close the caps in the 96 hole and 100 hole orifice plate racks.
- Easy to replace cover opening module, sample tube cover opening/closing operations can be achieved for 96 hole and 100 hole plate holders on one device.
- Built in intelligent sensor for intelligent identification of sample tubes with different capacities.
- It can operate independently or integrate with other liquid processing workstations and robotic arms into an automated system. Drawer type input and output port, avoiding the risk of sample contamination during the opening process.
- Touch screen panel, one click operation, providing users with an intuitive and convenient operating experience. Compact structural design, size 36 × forty-seven × 55cm (L × W × H) .



KJMC-V

Built in intelligent sensor for intelligent identification of sample tubes with different capacities

Power switch



Touch screen panel, user-friendly human-machine dialogue

Drawer type input and output port, avoiding the risk of sample contamination during the opening process

Emergency stop button

### >>> KJMC-III 6-Channel Electric Decapper KJMC-IV 8-Channel Electric Decapper

#### Features:

- The handheld multi-channel automatic cap opener provides a more lightweight and convenient batch opening method for screw cap caps. The screwdriver head follows the SBS layout, and simultaneously achieves the function of opening/closing 6/8 pipe caps in a single row. The torque limiting structure in the cover opener ensures that the pipe cap is completely sealed and prevents damage to the sealing ring due to excessive torque. A flexible and efficient solution for storing consumables to meet your needs.
- Complete the opening or closing of 6/8 pipe caps within 3 seconds, improving efficiency.
- Avoid laboratory personnel coming into contact with samples or reagents due to switch caps, reducing safety hazards caused by biochemical reagents and biological samples.
- Currently, the lightest product among all handheld lid openers to avoid fatigue caused by long-term use.
- Large size release button in the center, with separate cap rotation and release keys.
- High capacity lithium battery provides power, with USB charging interface.
- The 8-channel automatic cover opener is suitable for both inner and outer rotating tubes.
- 6-channel, suitable for use with 48 extra rotating SBS tube boxes.



Product usage scenarios



KJMC-III



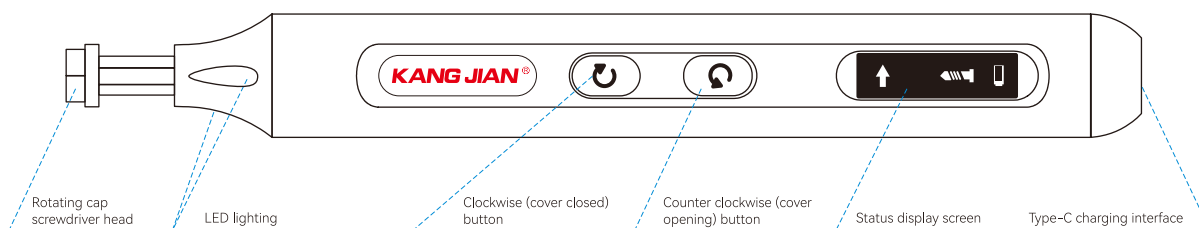
KJMC-IV

## Decapper

### >>> KJMC-VI Single Channel Electric Decapper

#### Product Introduction:

This product is used for the entire series of SBS cryopreservation tubes and QR code cryopreservation tubes of Health Medical, with a single tube opening and closing cap. The pen style portable design makes use more flexible and convenient. Customizable rotating cap batch heads can be used to match different sample tubes. Suitable for use in almost all places such as biological sample banks, research institution laboratories, testing and quarantine institutions, etc.



#### Features:

- **Efficient and safe:** Electric rotating cover, higher efficiency and safer pollution prevention compared to manual operation.
- **Humanized design:** Ergonomic design for long-lasting and comfortable use.
- **Wide application range:** Supporting the full range of frozen storage tubes for healthcare.
- **Safety and stability:** Unified torque to ensure the sealing performance of the cover and prevent damage to the frozen storage tube.
- **Simplicity and portability:** Simple operation, user-friendly dynamic display of power, operation actions, and rotation direction.

#### Examples of use:



## Scanner

### >>> KJSC-I QR Code Cryovials Scanner

#### Product Introduction:

- Widely applicable, it can be applied to the centralized scanning and recognition of the QR code at the bottom of the entire box of SBS frozen storage tube boxes with 48, 96, and 196 grids, as well as the 100 grid standard frozen storage box.
- High recognition efficiency, with a recognition time of less than 2 seconds for the entire box.
- Outstanding recognition performance, and the blurry QR code at the bottom can also be easily recognized.
- High position camera framing structure effectively reduces the recognition error rate after frost formation in the frozen storage tube. The body structure is compact and suitable for various applications.
- High speed USB3.0 interface for data transmission, avoiding latency in data reception.
- Rich expansion interfaces, optional addition of side code recognition module, with adjustable module positions on all four sides.
- Allow an ambient temperature of  $-20^{\circ}\text{C}$  to ensure the quality of the sample during the identification process.
- Humanized software settings, marking missing, duplicate, failed code reading, and other locations.
- SDK development package software interface, convenient for docking with various system software.



#### Technical Data:

QR code read rate:	<2 seconds
Framing method:	Industrial camera
Resolving power:	12 million pixels
Applicable specifications:	Applicable specifications: 48/96/100/196 grid frozen storage box
Interface type:	USB3.0
Data storage type:	Multiple formats such as JPG, TXT, Excel tables, etc
Supports QR code types:	Data Matrix ECC200, GS1 Aztec Code, GS1 DataMatrix, GS1 QR Code, Micro QR Code, PDF417, QR Code, etc
Dimensions:	232(L)×185(W)×187(H) mm
Net weight:	6Kg

